

MECHANICAL SYMBOLS AND LEGEND

ABBR.	SYMBOL	DESCRIPTION
S OR W		SOIL, SEWER OR WASTE ABOVE FLOOR OR GRADE
V		VENT
CW		COLD WATER
HW		HOT WATER
DSP		DRY STANDPIPE
SD		STORM DRAIN
D		DRAIN
FS		FIRE SPRINKLER
CD		CONDENSATE DRAIN
RS		REFRIGERANT SUCTION
RL		REFRIGERANT LIQUID
GV		GATE VALVE
GV (N.C.)		GATE VALVE (NORMALLY CLOSED)
CHKV		CHECK VALVE
PV		PLUG VALVE
BLV		BALL VALVE
OS&Y		OUTSIDE SCREW & YOKE VALVE
CSV		CIRCUIT SETTER VALVE
BV		BUTTERFLY VALVE
PRV		PRESSURE REDUCING VALVE
CV		CONTROL VALVE
T & P		TEMPERATURE & PRESSURE RELIEF VALVE
UNION		UNION
STR		STRAINER
T		THERMOMETER
WHA		WATER HAMMER ARRESTOR
FC		FLEXIBLE CONNECTOR
FCO		FLOOR CLEANOUT
COTG		CLEANOUT TO GRADE
WCO		WALL CLEANOUT
CO		CLEANOUT
HB		HOSE BIBB
POC		POINT OF CONNECTION
ATP		ACCESSIBLE TRAP PRIMER
OBVD		(E) TO BE REMOVED OPPOSED BLADE VOLUME DAMPER
F/D		FIRE DAMPER
VTR		VENT THROUGH ROOF
FD		FLOOR DRAIN
RD		ROOF DRAIN
FNL D		FUNNEL DRAIN
FE		FIRE EXTINGUISHER
FLS		FLOW SWITCH
T'STAT		THERMOSTAT
PG W/GC		PRESSURE GAGE WITH GAGE COCK
SW		UNIT "ON-OFF" SWITCH
SR		SUPPLY REGISTER
RR		RETURN REGISTER
ER		EXHAUST REGISTER
CD		CEILING DIFFUSER
OA		OUTSIDE AIR
SA		SUPPLY AIR
RA		RETURN AIR
EXH		EXHAUST AIR
WC		WATER CLOSET
LAV OR L		LAVATORY
UR		URINAL
SHO		SHOWER
S		SINK
SS		SERVICE SINK
ATP		ACCESSIBLE TRAP PRIMER
WHA		WATER HAMMER ARRESTER
GW		GREASE WASTE
NGW		NON GREASE WASTE
PDI		PLUMBING DRAINAGE INSTITUTE
ABV		ABOVE
EX		EXHAUST FAN
ACCU		AIR COOLED CONDENSING UNIT

MECHANICAL GENERAL NOTES:

- CONFORM TO ALL REQUIREMENTS OF THE BUILDING, PLUMBING, AND ELECTRICAL CODES OF THE COUNTY OF HAWAII, STATE OF HAWAII HEALTH REGULATIONS, FIRE DEPARTMENT REGULATIONS, MANUFACTURER'S RECOMMENDATIONS AND OTHER APPLICABLE REGULATIONS.
- EXAMINE ALL PROJECT PLANS AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS AND THE EXTENT OF REMOVAL, RELOCATION AND/OR NEW WORK PRIOR TO BIDDING. NOTIFY AND COORDINATE WITH THE DIRECTOR FOR ANY MAJOR DEVIATIONS OR DISCREPANCIES DISCOVERED IN THE PLANS AND SPECIFICATIONS DUE TO UNFORESEEN OR VARYING FIELD CONDITIONS.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BID AND CONSTRUCTION.
- PROVIDE ADDITIONAL MATERIALS AND LABOR FOR A COMPLETE AND OPERABLE SYSTEM AT NO ADDITIONAL COST TO THE OWNER.
- PAY FOR ALL PERMITS AND APPLICATIONS.
- CAULK ALL PENETRATION WATERTIGHT. PROVIDE ALL CUTTING, PATCHING AND RESTORING OF EXISTING SURFACES TO MATCH ORIGINAL SURFACE FINISHES. SPOT PAINT TO MATCH EXISTING SURFACES/COLOR.
- ALL EQUIPMENT AND FIXTURES SHALL BE CAPABLE OF FITTING INTO THE SPACES ALLOTTED WHILE MEETING THE MANUFACTURER'S RECOMMENDED ACCESS REQUIREMENTS. REVIEW ALL SPACES WHERE EQUIPMENT AND FIXTURES ARE TO BE INSTALLED PRIOR TO ORDERING OF ITEMS AND NOTIFY DIRECTOR OF ANY INADEQUATE CLEARANCES OR CONDITIONS THAT WILL PREVENT THE PROPER INSTALLATION, MAINTENANCE, OPERATION, AND REPLACEMENT OF THE EQUIPMENT AND FIXTURES.
- DRAWINGS ARE DIAGRAMMATIC IN NATURE AND DO NOT SHOW EXACT DETAIL OF PIPING AND DUCTWORK. PROVIDE OFFSETS AS NECESSARY TO AVOID LOCAL OBSTRUCTIONS OR INTERFERENCES WITH OTHER TRADES. REVIEW ALL PIPING AND DUCT RUNS PRIOR TO FABRICATION AND IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER OF ANY INTERFERENCES AND/OR LACK OF ADEQUATE CLEARANCES.
- SHOULD PROJECT CONDITIONS REQUIRE REARRANGEMENT OF WORK, MAKE SUCH CHANGES ON THE AS-BUILT DRAWINGS. IF THESE CHANGES REQUIRE ALTERNATE METHODS TO THOSE APPROVED BY THE CONTRACT DOCUMENTS, SUBMIT SHOP DRAWINGS SHOWING THE PROPOSED ALTERNATE METHODS TO THE DIRECTOR FOR REVIEW/APPROVAL PRIOR TO PROCEEDING WITH WORK.
- COORDINATE ALL SWITCH, THERMOSTAT, FIRE EXTINGUISHER, ETC. LOCATION WITH DIRECTOR PRIOR TO INSTALLATION TO AVOID INTERFERENCES WITH PAINTING, BULLETIN BOARDS, FURNITURE, ETC.
- ALL ELECTRICAL AND CONTROL WIRING SHALL BE IN CONDUIT. PROVIDE GALVANIZED STEEL PIPE CONDUIT WHERE EXPOSED TO WEATHER. PAINT TO MATCH SURROUNDINGS.
- ALL SWITCHES, TIMECLOCKS, THERMOSTATS, AND CONTROL ITEMS SHALL BE MOUNTED AT 44" AFF AS PER ADA REQUIREMENTS AND SHALL BE ADA ACCESSIBLE, UNLESS OTHERWISE INDICATED BY THE DIRECTOR.
- COORDINATE ALL WORK WITH OTHER TRADES TO AVOID INTERFERENCES AND DELAYS.
- SEISMICALLY BRACE ALL EQUIPMENT, PIPING, AND DUCTWORK IN ACCORDANCE WITH THE CURRENT BUILDING CODE AND THE RESPECTIVE SEISMIC ZONE DESIGNATION.
- PROVIDE ACCESS PANELS FOR ALL ITEMS UNDER THIS SECTION REQUIRING SERVICING, INSPECTION, MAINTENANCE, AND ADJUSTMENT.
- ALL PENETRATIONS THRU EXISTING WALLS, FOUNDATIONS, AND FLOOR SLABS SHALL BE IN TOTAL COMPLIANCE WITH ARCHITECTURAL PROCEDURES AND DRAWINGS.
- ALL PENETRATIONS THRU RATED WALLS AND CEILINGS SHALL BE EQUIPPED WITH APPROVED FIRE STOPPING AND OR FIRE & SMOKE DAMPERS.

HAWAII COUNTY CODE – CHAPTER 5--BUILDING

2006 IECC & ORDINANCES 09-48 & 10-68

BUILDING ENERGY EFFICIENCY STANDARDS

I CERTIFY THAT THE DESIGN IS IN CONFORMANCE WITH THE BUILDING ENERGY STANDARDS PERTAINING TO:

SECTION 503 BUILDING MECHANICAL SYSTEMS

SECTION 504 SERVICE WATER HEATING (MANDATORY)

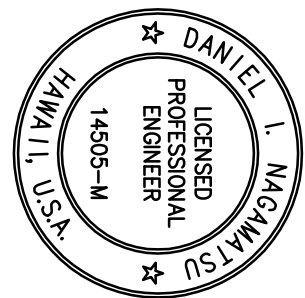
Signature: Daniel I. Nogamatsu Date: 4/5/2012

Name: Daniel I. Nogamatsu
Title: Engineer
License No. 14505-M

DEPARTMENT OF HEALTH NOTE:

THE AIR CONDITIONING AND VENTILATION SYSTEM SHALL COMPLY WITH TILE 11, ADMINISTRATIVE RULES, DEPARTMENT OF HEALTH, CHAPTER 39, AIR CONDITIONING AND VENTILATION REQUIREMENTS.

2	5-9-12	CLARIFICATION	DESCRIPTION	DN	APPROVED
REVISION	DATE	MADE BY	APPROVED		



COUNTY OF HAWAII
DEPARTMENT OF PUBLIC WORKS, BUILDING DIVISION
NEW KAUʻU DISTRICT GYMNASIUM & SHELTER AT KAUʻU AND PAHALA ELEMENTARY SCHOOL CAMPUS
JOB NO. B-4108
PAʻAUʻAU AHUPUʻA, DISTRICT HAWAII
96-2150 PINE STREET, HAWAII 96744
TMM: (3) 94-05/08 & 39

EXPIRES 4/30/14

This work was prepared by me or under my supervision and construction of this project will be under my observation.

Daniel I. Magamatsu
MISUNIGA & ASSOCIATES

MECHANICAL LEGEND & NOTES
REVIEWED: _____
DESIGN BY: DNEE
DRAWN BY: CAD
CHECKED BY: DNI

DIVISION CHIEF
BUILDING DIVISION
DEPARTMENT OF PUBLIC WORKS

DATE
2012 APR-5

SHEET NO.
M-1
138 OF 190 SHEETS

EXHAUST FAN (EF); KITCHEN EXHAUST FAN (KEF); SUPPLY FAN (SF) SCHEDULE

TAG	AREA SERVED	FAN TYPE	DRIVE TYPE	AIR VOLUME CFM	S.P. (IN. WG)	FAN RPM	ELECTRICAL DATA						UNIT WT. (LBS.)	MANUFACTURER	MODEL No.	REMARKS
							HP	WATTS	VOLTS	PHASE	HZ	SONES				
EF 1	UNISEX LOCKER/ SHOWER #1 & CHANGING RM #1	PRV	BELT	2200	0.375	935	1/3	-	115	1	60	11.1	68	GREENHECK	GB-161-3	
EF 2																
EF 3	GYM MEN'S RR	PRV	BELT	1150	0.375	882	1/4	-	115	1	60	6.5	63	GREENHECK	GB-141-4	
EF 4	GYM WOMEN'S RR	PRV	BELT	1850	0.375	844	1/4	-	115	1	60	9.0	65	GREENHECK	GB-161-4	
EF 5	GYM WOMEN'S EXTERIOR RR	CEILING CABINET	DIRECT	500	0.25	826	-	350	115	1	60	3.0	35	GREENHECK	SP-A700	INTERLOCK W/ LIGHTS; PROVIDE 277 V TO 115 V TRANSFORMER
EF 6	GYM MEN'S EXTERIOR RR	CEILING CABINET	DIRECT	500	0.25	826	-	350	115	1	60	3.5	35	GREENHECK	SP-A700	
EF 7	MULTI-PURPOSE BLDG. WOMEN'S & MEN'S RR	PRV	BELT	2100	0.375	908	1/3	-	115	1	60	10.4	68	GREENHECK	GB-161-3	
EF 8	ATHLETIC DIRECTOR'S RR	CEILING CABINET	DIRECT	225	0.25	1027	-	81	115	1	60	2.5	26	GREENHECK	SP-A290	INTERLOCK W/ LIGHTS; PROVIDE 277 V TO 115 V TRANSFORMER
EF 9	FAMILY RR 1	CEILING CABINET	DIRECT	275	0.25	861	-	121	115	1	60	1.5	32	GREENHECK	SP-A410	
EF 10	FAMILY RR 2	CEILING CABINET	DIRECT	275	0.25	861	-	121	115	1	60	1.5	32	GREENHECK	SP-A410	INTERLOCK W/ LIGHTS; PROVIDE 277 V TO 115 V TRANSFORMER
EF 11	ATHLETIC TRAINER	CEILING CABINET	DIRECT	650	0.25	1075	-	285	115	1	60	5.5	35	GREENHECK	SP-A710	
EF 12	KITCHEN GENERAL EXHAUST	CEILING CABINET	DIRECT	400	0.25	1000	-	224	115	1	60	3.0	35	GREENHECK	SP-A510	
KEF 1	KITCHEN HOOD	CENTRIFUGAL UPBLAST	BELT	3300	2.0	1462	2	-	208	3	60	19.8	128	GREENHECK	CUBE-180-20	INTERLOCK W/ SF-4
SF 1	LOCKERS/ SHOWERS	FILTERED LOOVERED SUPPLY FAN	BELT	4500	1.0	625	1-1/2	-	208	3	60	14.7	356	GREENHECK	RSFP-180-15	
SF 2	GYM RESTROOMS	FILTERED LOOVERED SUPPLY FAN	BELT	3000	1.0	909	1-1/2	-	208	3	60	15.3	204	GREENHECK	RSFP-120-15	
SF 3	COMMUNITY REC. ROOM	IN-LINE	BELT	2600	1.5	1505	1-1/2	-	208	3	60	15.1	283	GREENHECK	BSQ-160-15	W/ FILTER BOX
SF 4	KITCHEN HOOD MAKE-UP AIR	FILTERED LOOVERED SUPPLY FAN	BELT	3000	1.0	909	1-1/2	-	208	3	60	15.3	204	GREENHECK	RSFP-120-15	INTERLOCK W/ KEF-1
SF 5	CORRIDOR 1	IN-LINE	BELT	700	1.0	1561	1/3	-	115	1	60	11.1	134	GREENHECK	BSQ-130HP-3	W/ FILTER BOX
SF 6	CORRIDOR 2	IN-LINE	BELT	400	1.0	1842	1/3	-	115	1	60	14.1	121	GREENHECK	BSQ-80-3	W/ FILTER BOX
SF 7	COURT 1 BLEACHERS (LEFT SIDE)	FILTERED LOOVERED SUPPLY FAN	BELT	3015	0.625	567	3/4	-	115	1	60	12.9	267	GREENHECK	RSFP-150-7	
SF 8	COURT 1 BLEACHERS (LEFT SIDE)	FILTERED LOOVERED SUPPLY FAN	BELT	3015	0.625	567	3/4	-	115	1	60	12.9	267	GREENHECK	RSFP-150-7	
SF 9	COURT 1 BLEACHERS (RIGHT SIDE)	FILTERED LOOVERED SUPPLY FAN	BELT	3015	0.625	567	3/4	-	115	1	60	12.9	267	GREENHECK	RSFP-150-7	
SF 10	COURT 1 BLEACHERS (RIGHT SIDE)	FILTERED LOOVERED SUPPLY FAN	BELT	3015	0.625	567	3/4	-	115	1	60	12.9	267	GREENHECK	RSFP-150-7	
SF 11	COURT 4 BLEACHERS (LEFT SIDE)	FILTERED LOOVERED SUPPLY FAN	BELT	1800	0.625	876	1/2	-	115	1	60	11.5	154	GREENHECK	RSFP-100-5	
SF 12	COURT 4 BLEACHERS (RIGHT SIDE)	FILTERED LOOVERED SUPPLY FAN	BELT	1800	0.625	876	1/2	-	115	1	60	11.5	154	GREENHECK	RSFP-100-5	

NOTE: FANS SCHEDULED ARE ALL PRODUCTS OF THE SCHEDULED MANUFACTURERS' STANDARD CATALOGED HURRICANE AND HIGH WIND FANS PRODUCT LINE. PROVIDE ROOF CURB AND ACCESSORIES AS RECOMMENDED BY THE MANUFACTURER FOR THE HURRICANE AND HIGH WIND CERTIFICATION.

REVISION		DATE	DESCRIPTION	MADE BY	APPROVED
2	5-9-12		CLARIFICATION		
COUNTY OF HAWAII DEPARTMENT OF PUBLIC WORKS, BUILDING DIVISION NEW KAUU DISTRICT GYMNASIUM & SHELTER AT KAUU AND PAHALA ELEMENTARY SCHOOL CAMPUS JOB NO. B-4108 PAULU AHUPUANA DISTRICT HAWAII SHANE STREET, HAWAII 96777 96-2150 PHONE (808) 944-6100 FAX (808) 944-6101 TMM (3) 9-4-05; 08 & 39					
MECHANICAL EQUIPMENT SCHEDULES					
REVIEWED:			DESIGN BY: DINEE DRAWN BY: CAND CHECKED BY: DNI		
DIVISION CHIEF BUILDING DIVISION DEPARTMENT OF PUBLIC WORKS			DATE 2012 APR-5		
MISUNIGA & ASSOCIATES			SHEET NO. M-2 190 OF 190 SHITS		

INSTANTANEOUS WATER HEATER

TAG	AREA SERVED	TEMP. RISE @ 1.0 GPM (°F)	EFF.	ELECTRICAL					UNIT (MT. LBS.)	MANUFACTURER	MODEL No.	REMARKS
				BREAKER SIZE (A)	WATTS	VOLTS	PHASE	HZ				
<div><div><div></div><div>IWM</div><div>1&2</div></div></div>	ATHLETIC DIRECTORS SHOWER ATHLETIC TRAINER WHIRLPOOL	57	99%	30	8,320	208	1	60	5	CHRONOMITE	M-40/208	

TANKLESS GAS WATER HEATER SCHEDULE

TAG	GAS INPUT		FUEL	GPM @ 45° RISE	EFF.	ELECTRICAL		UNIT VOLT. (LBS.)	MANUFACTURER	MODEL No.	REMARKS	
	MIN. (BTUH)	MAX. (BTUH)				VOLTS	PHASE					HZ
<div><div>THW</div><div>1 TO 4</div></div>												
SHOWERS	10,300	199,000	PROPANE	7.3	82	120	1	60	51	RINNAI	RL94e	OUTDOOR TYPE


ELECTRIC WATER HEATER SCHEDULE

EWH NO	SERVICE	TYPE	INPUT (WATTS)	RECOVERY RISE	RECOVERY GPH	STORAGE GALLONS	ELECTRICAL DATA			WT. LBS.	MANUFACTURER NAME AND MODEL NO.
							VOLTS	PH	HZ		
EWH 1	KITCHEN DOMESTIC HOT WATER	ELECTRIC	4500	100°F	1½	30	208	1	60		BRADFORD MODEL LD-30L 3-3 OR APPROVED EQUAL

DX AIR HANDLING UNIT SCHEDULE

TAG	AREA SERVED	TOTAL CAPACITY (MBTUH)	SENSIBLE CAPACITY (BTUH)	SUPPLY AIR CFM	OUTSIDE AIR CFM	E.S.P. (IN. WG)	T.S.P. (IN. WG)	COIL DATA				ELECTRICAL DATA			UNIT Wt. (LBS.)	MANUFACTURER	MODEL No.	REMARKS				
								ENTERING AIR	LEAVING AIR	No. OF R.O.F.	HP	VOLTS	PHASE	HZ					UNIT TYPE	VERTICAL DRAW-THRU		
AHU 1	MULTI-PURPOSE ROOM	273.22	139.74	4500	3900	2.5	3.42	F. DB	F. WB	F. DB	F. WB	6	5.0	230/460	3	60	UNIT TYPE	VERTICAL DRAW-THRU	901	CARRIER	39LD10	FIELD INSTALLED. UV-C LIGHTS, SMOKE DETECTOR IN SA DUCT

AIR-COOLED CONDENSING UNIT SCHEDULE

TAG	SERVICE	TOTAL CAPACITY (MBTUH)	COND. ENT. AIR TEMP. (°F)	COMPRESSOR DATA		ELECTRICAL DATA						UNIT (LBS.)	MANUFACTURER	MODEL No.	REMARKS			
				No.	FLA (FA)	LRA (FA)	No.	FLA (FA)	MCA	MOCP	VOLTS					PHASE	HZ	EER
	AHU-1	273.22	95	2	48.1	245	2	6.6	121.4	150	208/230	3	60	11.0	1113	CARRIER	38AP5025	W/ LOW SOUND OPTION

INTAKE HOOD (IH); EXHAUST HOOD (EH);

TAG	SERVICE	THROAT		PERFORMANCE			UNIT WT. (LBS.)	MANUFACTURER	MODEL No.	REMARKS
		WIDTH (IN.)	LENGTH (IN.)	VOLUME (CFM)	S.P. (IN. WG)	THROAT VELOCITY (FT/MIN)				
IH 1	AHU-1	26	26	3900	0.091	831	57	GREENHECK	FGI	
IH 2	SF-3	22	22	2600	0.079	774	44	GREENHECK	FGI	
IH 3	SF-5	14	14	700	0.045	514	25	GREENHECK	FGI	
IH 4	SF-6	10	10	400	0.056	5764	12	GREENHECK	FGI	
EH 1	EF-9	8	8	275	0.053	619	22	GREENHECK	FOR	
EH 2	EF-10	8	8	275	0.053	619	22	GREENHECK	FOR	
EH 3	EF-5	10	10	500	0.072	720	22	GREENHECK	FOR	
EH 4	EF-6	10	10	500	0.072	720	22	GREENHECK	FOR	
EH 5	EF-8	8	8	225	0.053	506	22	GREENHECK	FOR	
EH 6	EF-11	12	12	650	0.058	650	21	GREENHECK	FOR	
EH 7	EF-12	10	10	400	0.046	576	21	GREENHECK	FOR	

NOTE: INTAKE & EXHAUST HOODS SCHEDULED ARE ALL PRODUCTS OF THE SCHEDULED MANUFACTURER'S STANDARD CATALOGED HURRICANE AND HIGH WIND FANED PRODUCT LINE. PROVIDE ROOF CURB AND ACCESSORIES AS RECOMMENDED BY THE MANUFACTURER FOR THE HURRICANE AND HIGH WIND CERTIFICATION.

EXPIRES 4/30/14

This work was prepared by me or under my supervision and construction of this project will be under my observation.

MITSUNAGA & ASSOCIATES

COUNTY OF HAWAII
 DEPARTMENT OF PUBLIC WORKS, BUILDING DIVISION
 KĀU DISTRICT GYMNASIUM &
 SHELTER AT KĀU AND PAHALA
 ELEMENTARY SCHOOL CAMPUS
 JOB NO. B-4108
 PAUPAULU, DISTRICT OF HAWAII
 ISLAND AND COUNTY OF HAWAII
 96-7150 PIKAKE STREET, PAHALA, HAWAII 96777
 TMM: (3) B-605; 08 x 3.9

MECHANICAL EQUIPMENT SCHEDULES

DESIGN BY: DNI
DRAWN BY: CAD

2	CHECKED BY: D
SHEET NO.	

DIVISION CHIEF
BUILDING DIVISION
DEPARTMENT OF PUBLIC WORKS

DATE 2012 APR-5

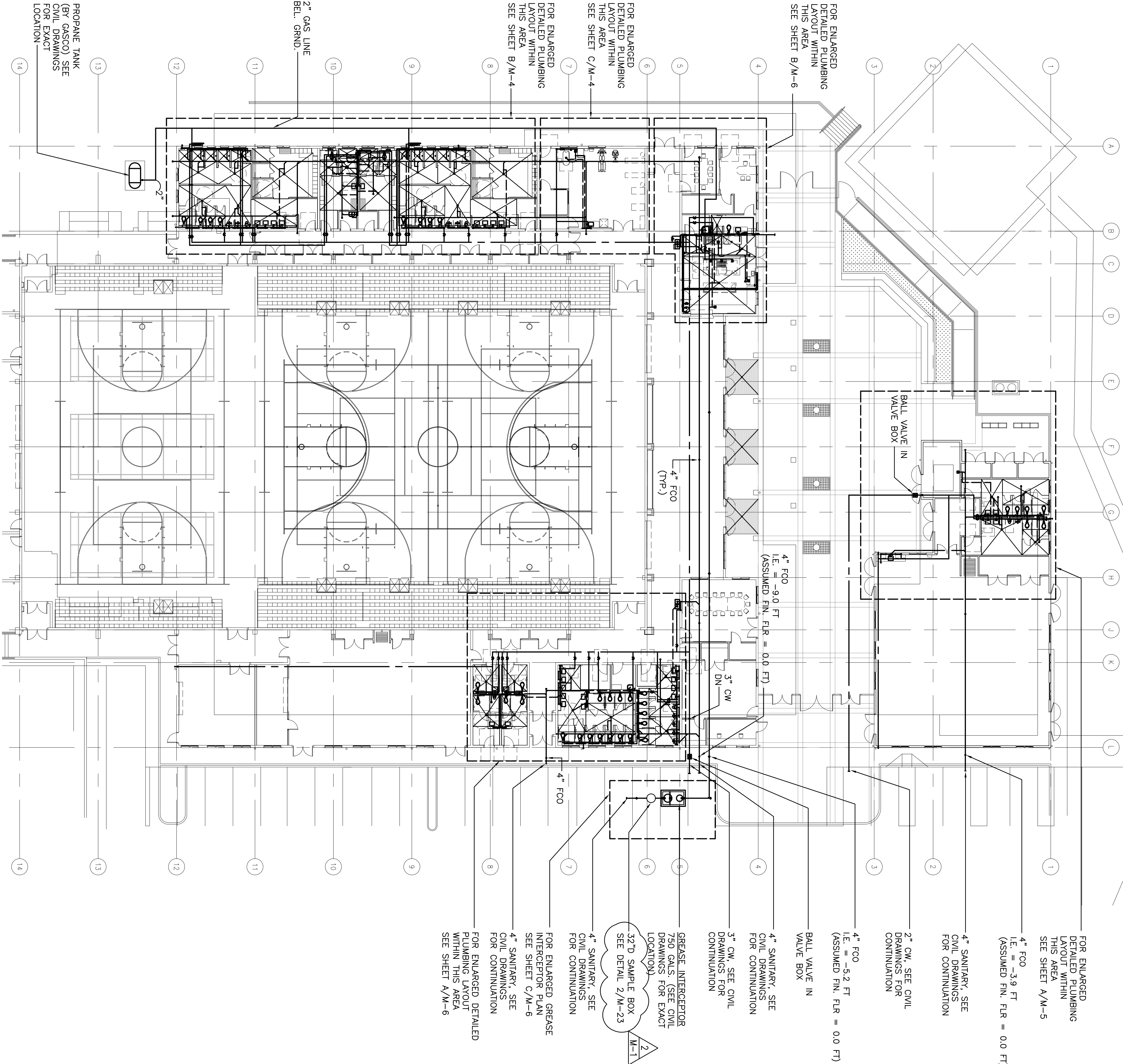
M-2a

- OF 190 SH

KITCHEN PLUMBING FIXTURE CONNECTION SCHEDULE					
DESCRIPTION	COLD WATER	HOT WATER	WASTE	VENT	GAS BTUH
HAND SINK	1/2"	1/2"	IW TO (A) FS		
FRONT SERVING COUNTER	3/4"	3/4"	IW TO (B) FS		
SCRAP COLLECTOR W/ PRE-RINSE	3/4"	3/4"	2"	2"	
POT SINKS	3/4"	3/4"	IW TO (C) FS		
FLOOR DRAIN			2"	2"	
FLOOR SINK			2"	2"	
CONNECTION OVEN					70,000
6-BURNER RANGE					250,000
GRIDDLE					130,000
					3/4"

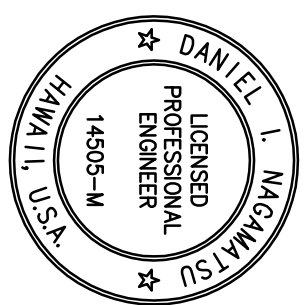
PLUMBING FIXTURE CONNECTION SCHEDULE				
DESCRIPTION	COLD WATER	HOT WATER	WASTE	VENT
WATER CLOSET (F.V.)	1"		4"	2"
URINAL	3/4"		2"	2"
LAVATORY	1/2"		2"	2"
SINK	1/2"		2"	2"
SHOWER	1/2"	1/2"	2"	2"
ELECTRIC WATER COOLER	1/2"		2"	2"
MOP SINK	1/2"		2"	2"
SERVICE SINK	1/2"		2"	2"
FLOOR DRAIN			2"	2"
FLOOR SINK			2"	2"

- PLUMBING NOTES:
- COORDINATE ALL UNDERSLAB SANITARY PIPING WITH STRUCTURAL FOOTINGS.
 - COORDINATE ALL SANITARY AND DOMESTIC WATER PIPING LOCATIONS & INTERFACE CONNECTIONS WITH CIVIL.
 - COORDINATE ACCESS PANEL LOCATIONS FOR AUTOMATIC TRAP PRIMER (ATP) AND WATER HAMMER ARRESTER (WHA) WITH ARCHITECTURAL.



A OVERALL PLUMBING PLAN

M-3 SCALE: 1/16" = 1'-0"



EXPIRES 4/30/14

This work was prepared by me or under my supervision and construction of this project will be under my observation.

Daniel L. Magawisu
MISUNIGA & ASSOCIATES

COUNTY OF HAWAII
DEPARTMENT OF PUBLIC WORKS, BUILDING DIVISION
NEW KĀʻŪ DISTRICT GYMNASIUM & SHELTER AT KĀʻŪ AND PAHALA ELEMENTARY SCHOOL CAMPUS
JOB NO. B-4108
PAʻĀLĀU AHUPUʻĀ, DISTRICT HAWAII
96-2150 PINEAPPLE ROAD, HAWAII 96777
TMM (3) 9-6-05; 08 & 39

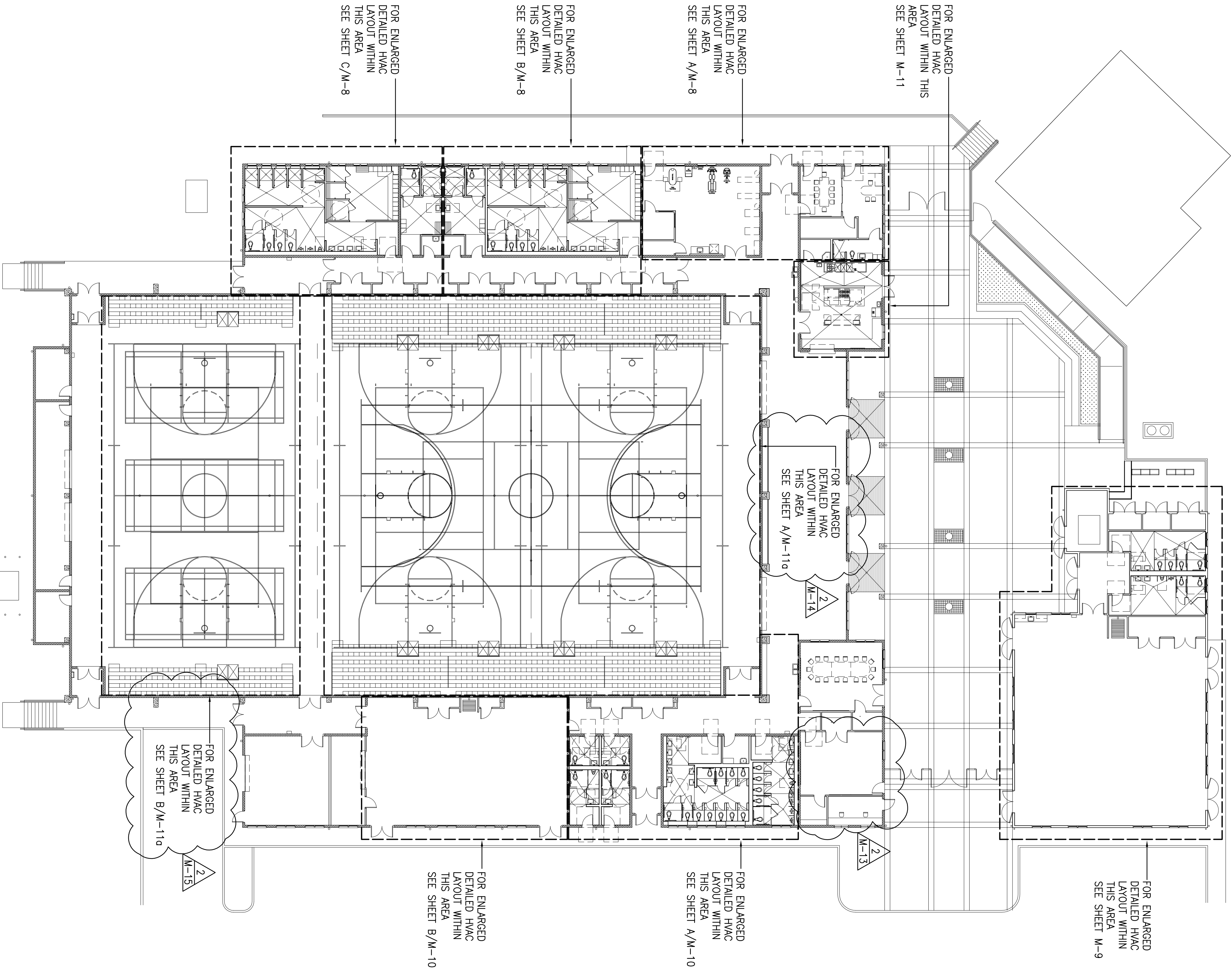
OVERALL PLUMBING PLAN

REVIEWED:

DIVISION CHIEF
BUILDING DIVISION
DEPARTMENT OF PUBLIC WORKS

DATE
2012 APR-5

DESIGN BY: DMM
DRAWN BY: CAD
CHECKED BY: DMM
SHEET NO.
M-3
140 OF 190 SHTS

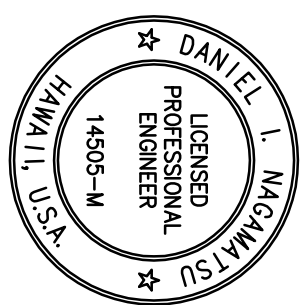


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M-7

OVERALL HVAC PLAN

SCALE: 1/16" = 1'-0"



EXPIRES 4/30/14

This work was prepared by me or under my supervision and construction of this project will be under my observation.

Daniel L. Magaña
DANIEL L. MAGAÑA
MAGANA & ASSOCIATES

MISSINGA & ASSOCIATES

COUNTY OF HAWAII
DEPARTMENT OF PUBLIC WORKS, BUILDING DIVISION
NEW KĀʻŪ DISTRICT GYMNASIUM & SHELTER AT KĀʻŪ AND PAHALA ELEMENTARY SCHOOL CAMPUS
JOB NO. B-4108
PAʻĀLĀU AHUPUʻĀ, DISTRICT HAWAII
96-2150 PINE STREET, 2ND FLOOR, KĀʻŪ, HAWAII 96777
TWC: (3) 9-6-05: 08 & 39

OVERALL HVAC PLAN

REVIEWED:

DIVISION CHIEF
BUILDING DIVISION
DEPARTMENT OF PUBLIC WORKS

DATE

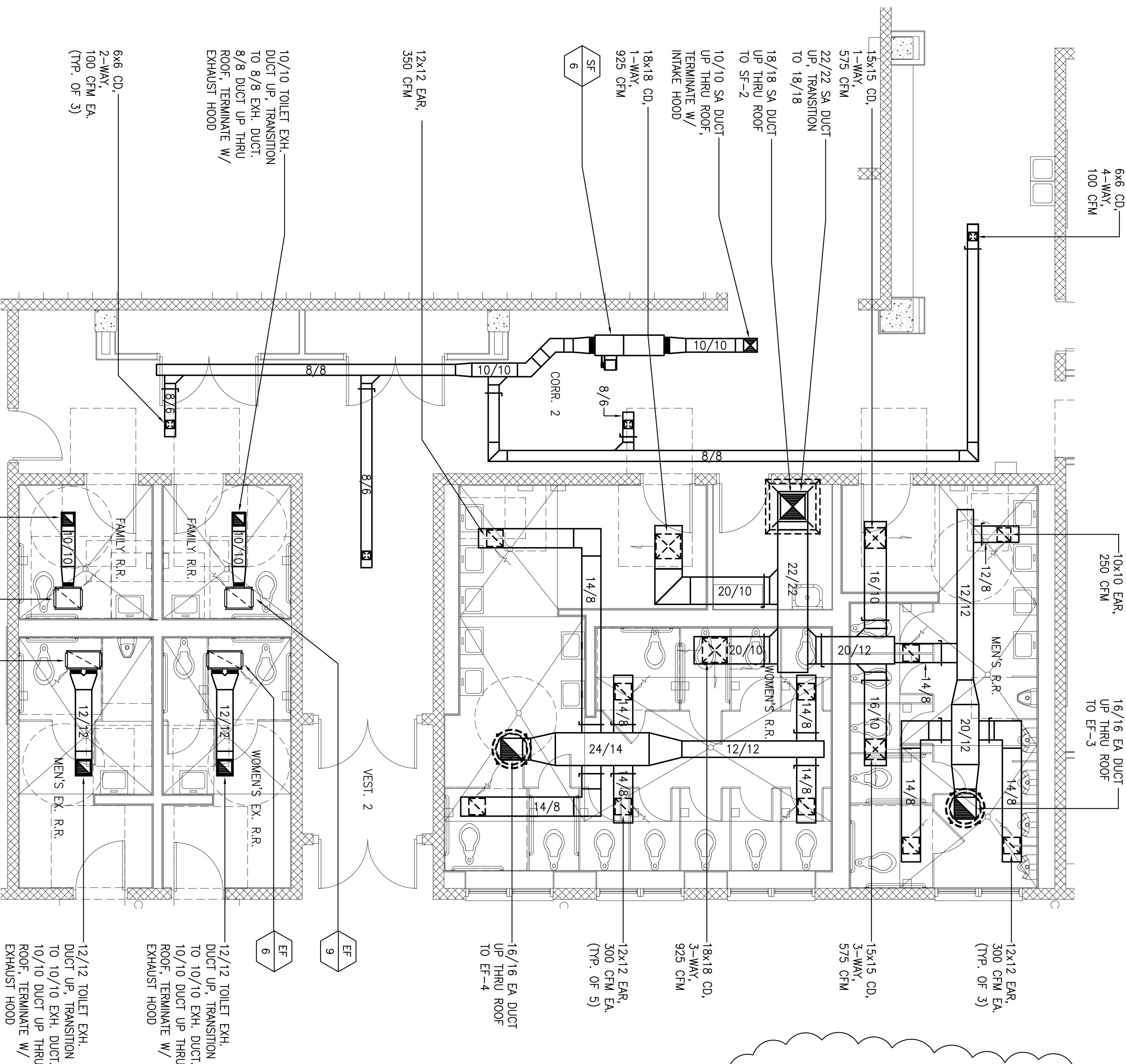
2012 APR-5

DESIGN BY: DME
DRAWN BY: CAD
CHECKED BY: DN

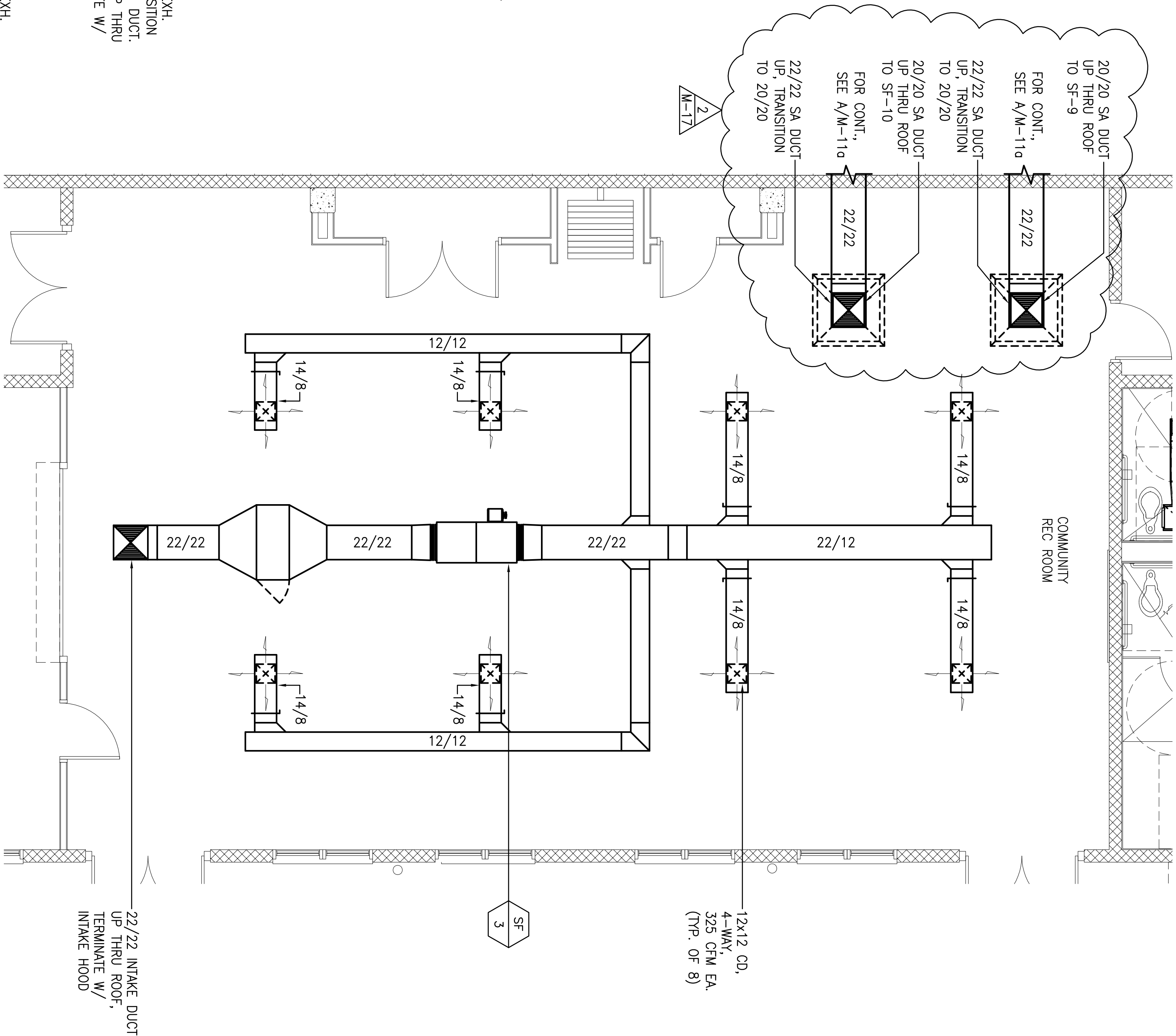
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M-7

144 OF 190 SHEETS



A MAIN GYM RESTROOMS HVAC PLAN
SCALE: 1/4" = 1'-0"



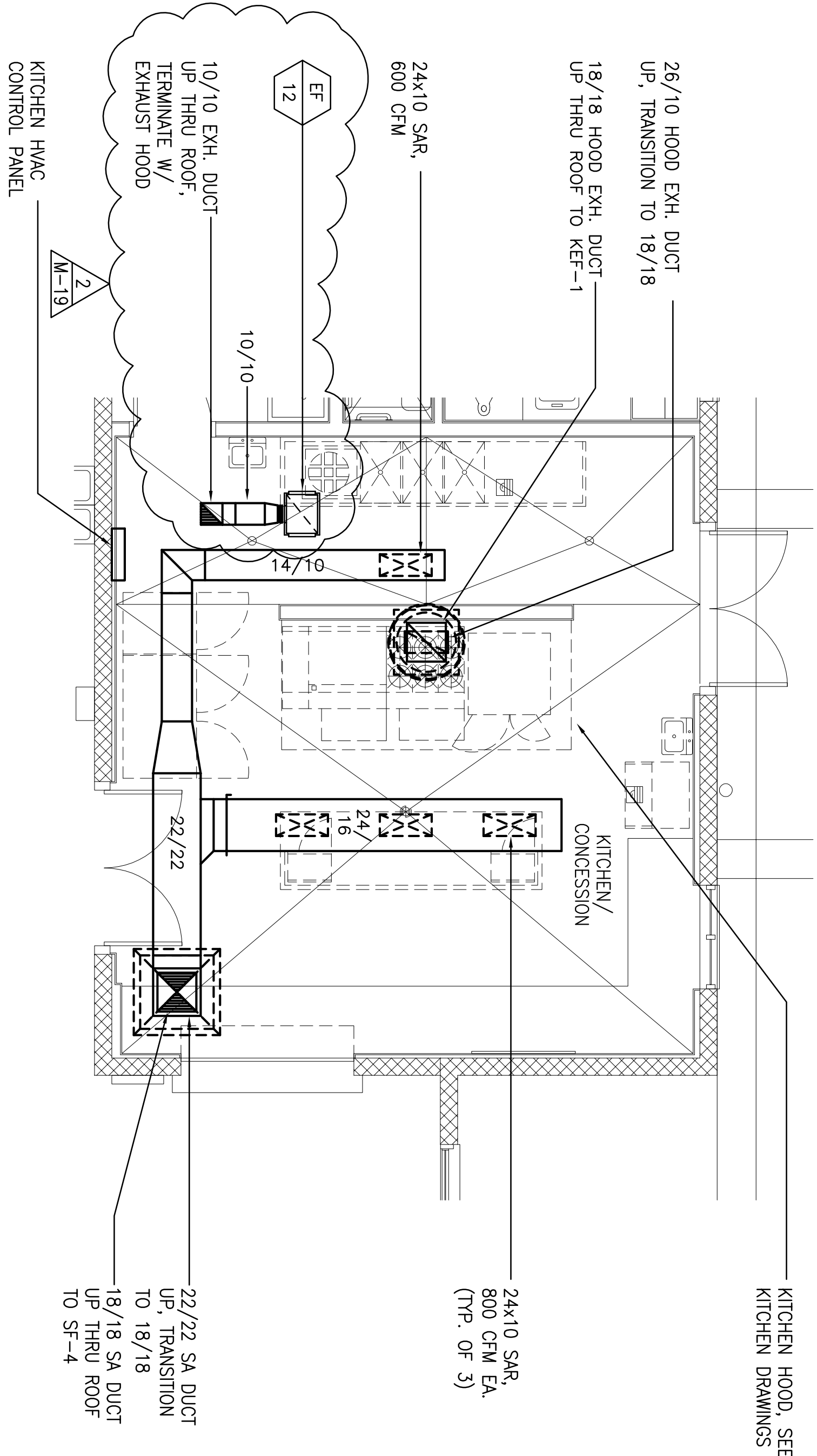
B COMM. REC. RM. HVAC PLAN
SCALE: 1/4" = 1'-0"

REVISION		DATE	DESCRIPTION	MADE BY	APPROVED
2	5-9-12	CLARIFICATION		DN	

COUNTY OF HAWAII DEPARTMENT OF PUBLIC WORKS, BUILDING DIVISION		NEW KA'U DISTRICT GYMNASIUM & SHELTER AT KA'U AND PAHALA ELEMENTARY SCHOOL CAMPUS JOB NO. B-4108 PA'AU/AHUAPU'A, DISTRICT HAWAII 96-2150 PINE STREET, KA'U, HAWAII 96777 TWC (3) 9-6-05; 08 & 39	
MAIN GYM RESTROOMS & COMM. REC. RM. HVAC PLANS		DATE 2012 APR-5	

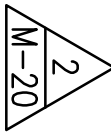
DESIGN BY: DINEE DRAWN BY: CAND CHECKED BY: DNI		SHEET NO. M-10	
DIVISION CHIEF BUILDING DIVISION DEPARTMENT OF PUBLIC WORKS		DATE 2012 APR-5	

EXPIRES 4/30/14		This work was prepared by me or under my supervision and construction of this project will be under my observation.	
DANIEL L. MAGAKASU LICENSED PROFESSIONAL ENGINEER 14505-M HAWAII, U.S.A.		MISHINAGA & ASSOCIATES	



A KITCHEN HVAC PLAN

M-11 SCALE: 1/4" = 1'-0"



REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
2	5-9-12	CLARIFICATION	DN	
COUNTY OF HAWAII DEPARTMENT OF PUBLIC WORKS, BUILDING DIVISION				
NEW KAU DISTRICT GYMNASIUM & SHELTER AT KAU AND PAHALA ELEMENTARY SCHOOL CAMPUS JOB NO. B-4108 PAUHAU AHUPUANA, DISTRICT HAWAII 96-2150 PINEAPPLE STREET, PAHALA, HAWAII 96777 TMM: (3) 9-6-05; 08 & 39				
KITCHEN AND PARKS AND REC. DIR. OFF./ CONFERENCEE HVAC PLAN				
REVIEWED:			DESIGN BY: DNIE	DRAWN BY: CAD
DIVISION CHIEF BUILDING DIVISION DEPARTMENT OF PUBLIC WORKS			CHECKED BY: DN	SHEET NO.
DATE 2012 APR-5			M-11	
148 OF 190 SHTS				

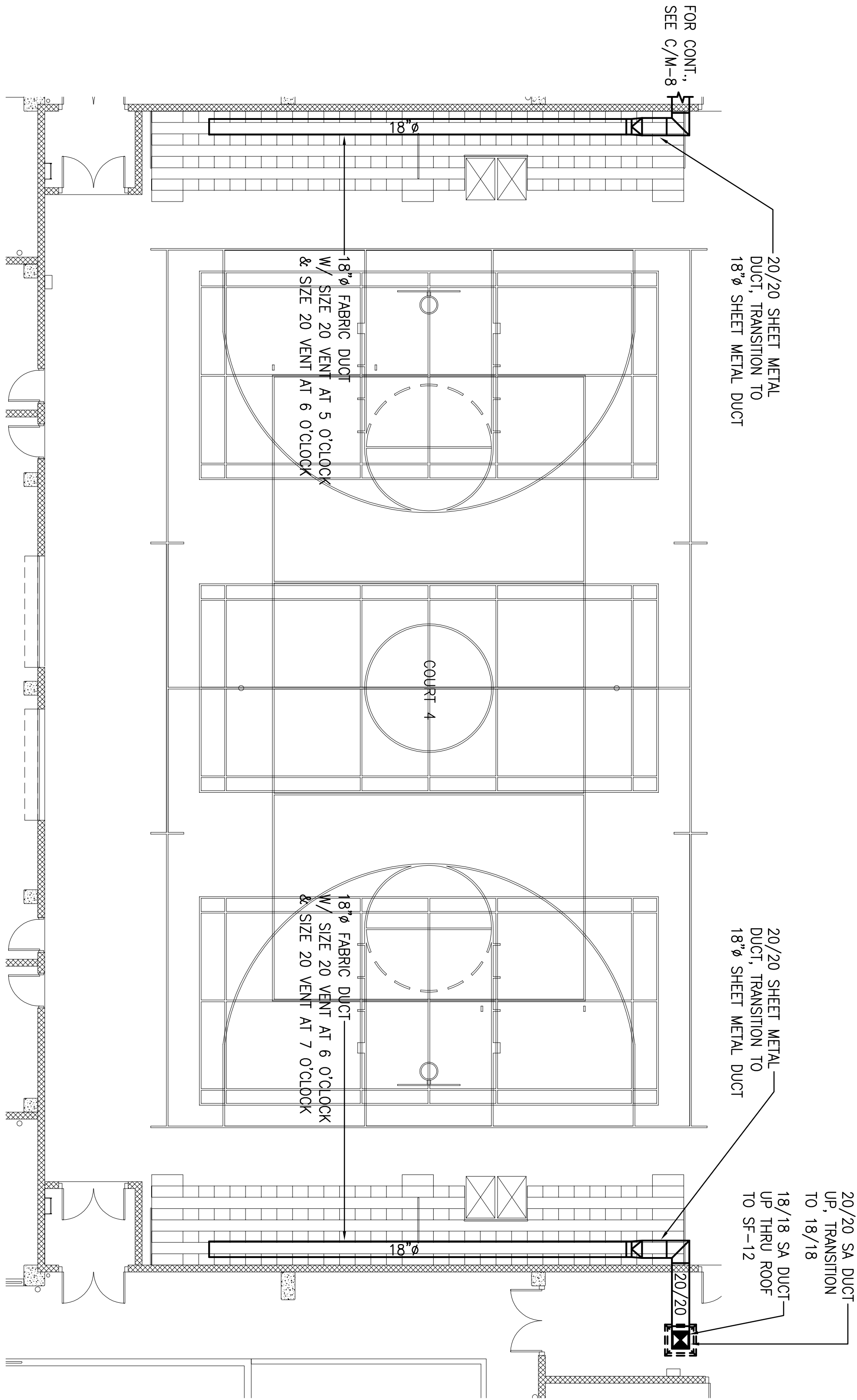
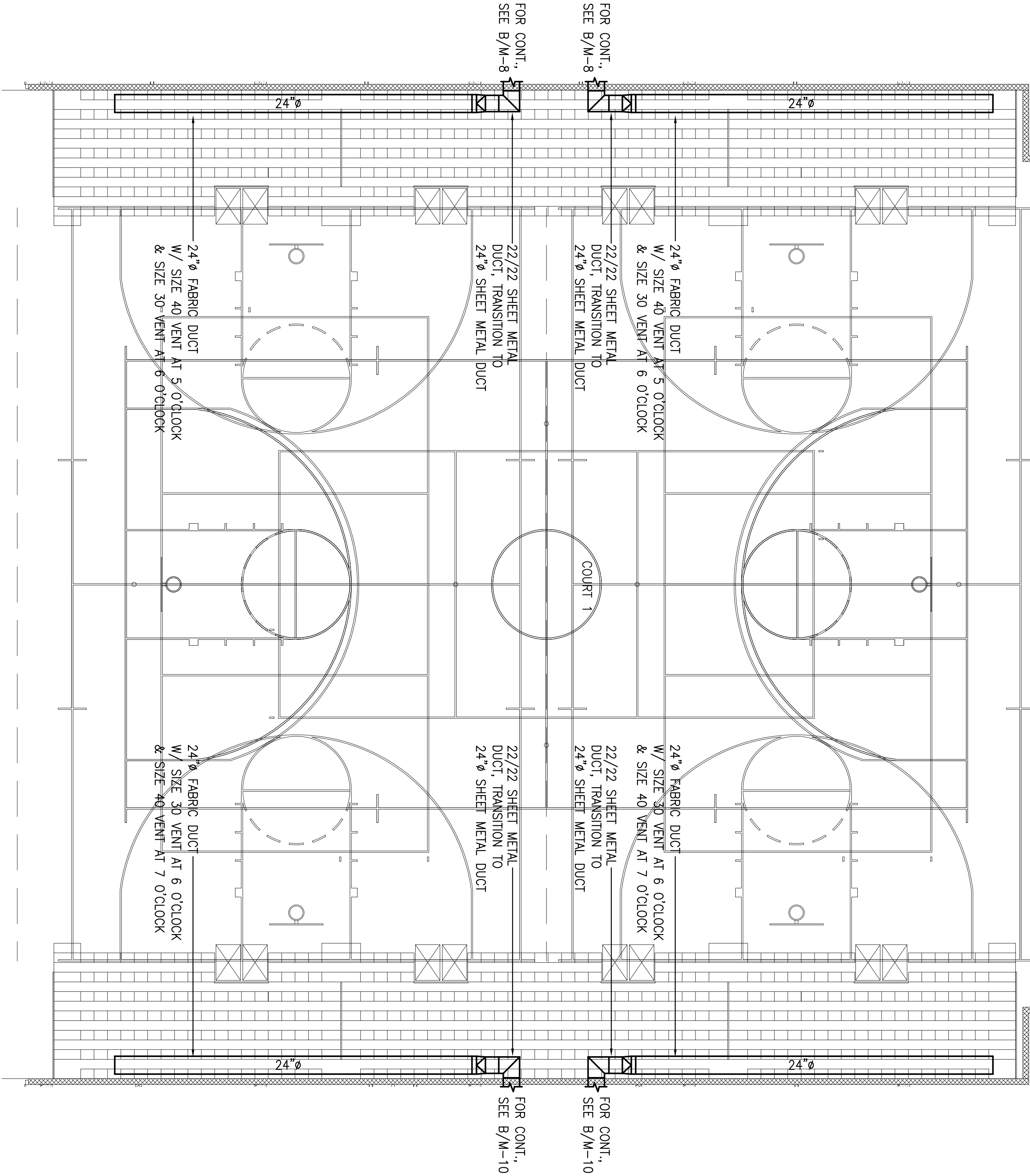
EXPRES 4/30/14

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Daniel L. Magana

MISUNIGA & ASSOCIATES

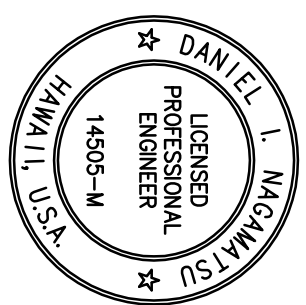
DANIEL L. MAGANA
LICENSED PROFESSIONAL ENGINEER
14505-M
HAWAII, U.S.A.



B COURT 4 HVAC PLAN
SCALE: 1/8" = 1'-0"

A COURT 1 HVAC PLAN
SCALE: 1/8" = 1'-0"

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
2	5-9-12	CLARIFICATION	DN	



COUNTY OF HAWAII
DEPARTMENT OF PUBLIC WORKS, BUILDING DIVISION
NEW KA'U DISTRICT GYMNASIUM &
SHELTER AT KA'U AND PAHALA
ELEMENTARY SCHOOL CAMPUS
JOB NO. B-4108
PA'AUU AHUPU'UA, DISTRICT HAWAII
96-2150 PINE STREET, PAHALA, HAWAII 96777
TMMK (3) 94-051 08 & 39

EXPIRES 4/30/14

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or under my supervision and
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Daniel L. Maganusi
M-11a
MISUNIGA & ASSOCIATES

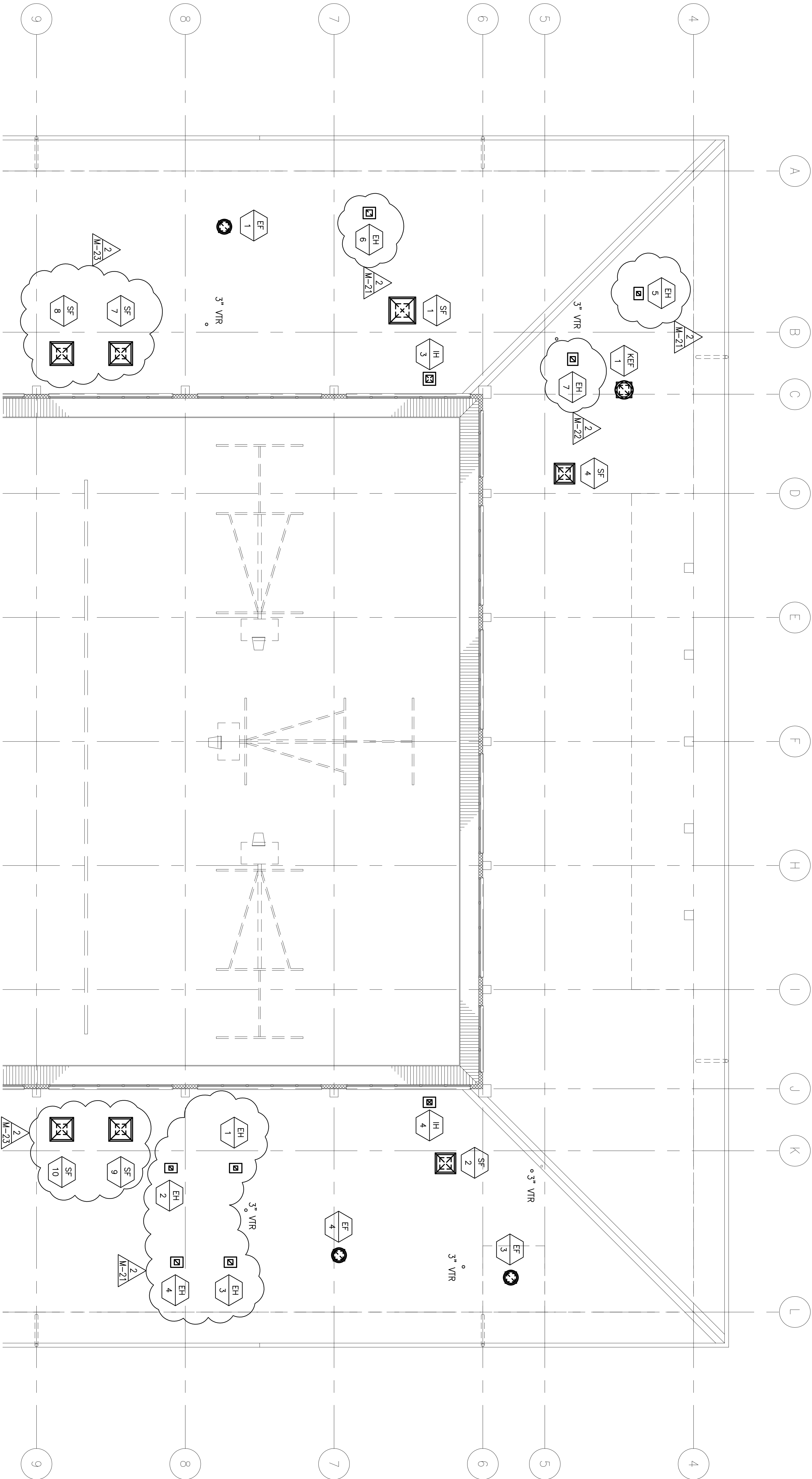
MAIN GYM FLOOR HVAC PLANS

REVIEWED:

DIVISION CHIEF
BUILDING DIVISION
DEPARTMENT OF PUBLIC WORKS

DATE
2012 APR-5

SHEET NO.
M-11a



A PARTIAL GYM LOWER ROOF MECHANICAL PLAN
SCALE: 1/8" = 1'-0"

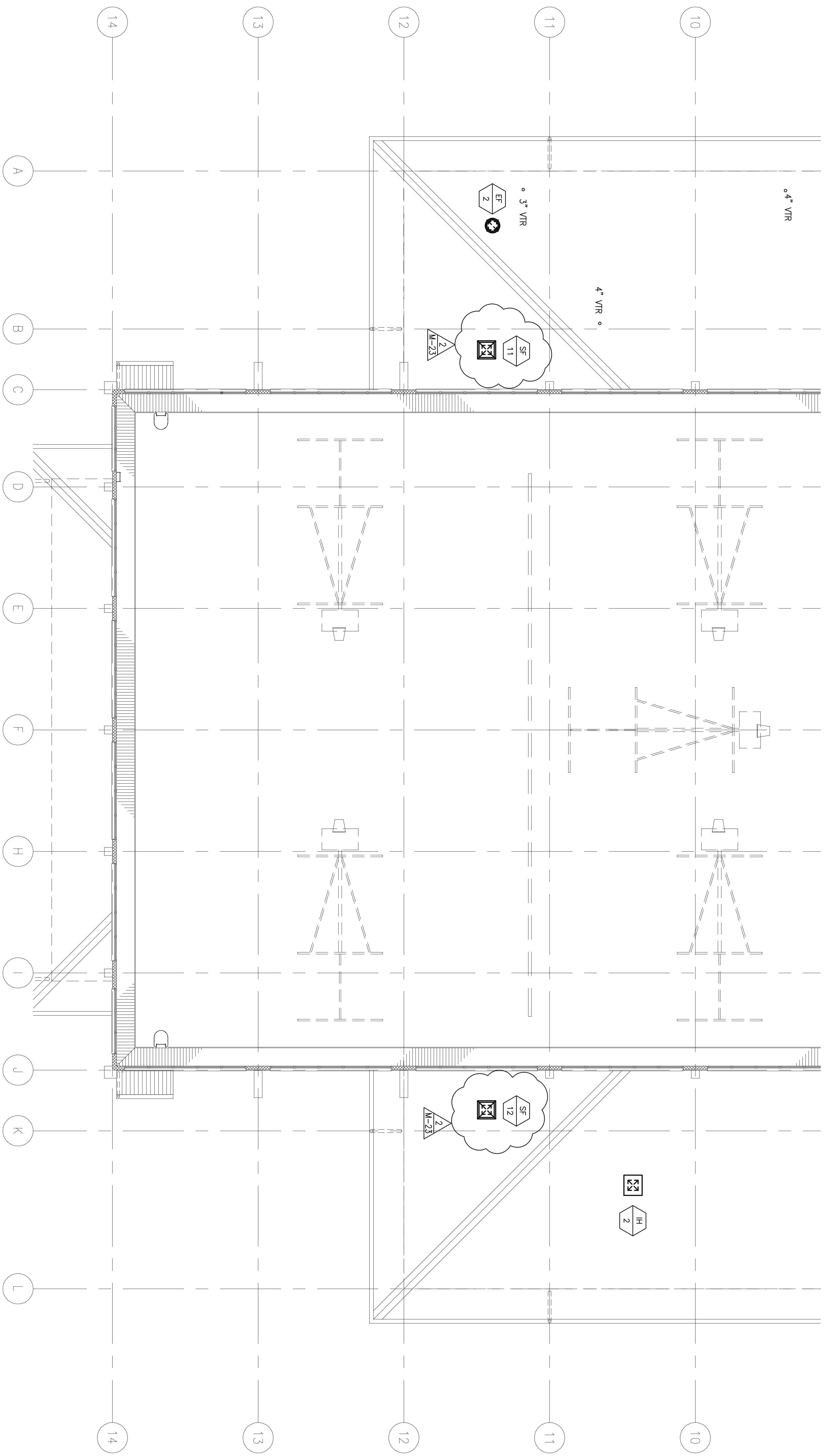
2		5-9-12		CLARIFICATION		DN			
REVISION		DATE		MADE BY		APPROVED			
COUNTY OF HAWAII DEPARTMENT OF PUBLIC WORKS, BUILDING DIVISION NEW KAUÛ DISTRICT GYMNASIUM & SHELTER AT KAUÛ AND PAHALA ELEMENTARY SCHOOL CAMPUS JOB NO. B-4108 PAUÛU AHUPUANA, DISTRICT HAWAII 96-2150 PINEAPPLE STREET, PAHALA, HAWAII 96777 TMMK (3) 9-6-05; 08 & 39									
PARTIAL GYMLOWER ROOF MECHANICAL PLAN									
DESIGNED BY: DNIE					DRAWN BY: CAD				
CHECKED BY: DN					SHEET NO.				
DIVISION CHIEF					DATE				
BUILDING DIVISION					2012 APR-5				
DEPARTMENT OF PUBLIC WORKS					148 OF 190 SHEETS				

EXP. 4/30/14

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Daniel L. Magaña

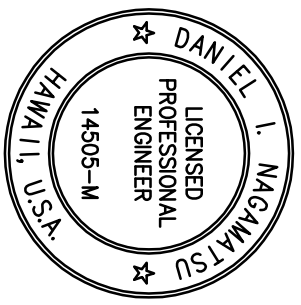
DANIEL L. MAGAÑA
LICENSED PROFESSIONAL ENGINEER
14505-M
HAWAII, U.S.A.



A PARTIAL GYM LOWER ROOF MECHANICAL PLAN

M-13 SCALE: 1/8" = 1'-0"

2	5-9-12	CLARIFICATION	DN
REVISION	DATE	DESCRIPTION	MADE BY APPROVED



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MITSUBUHI & ASSOCIATES

DEPARTMENT OF PUBLIC WORKS, BUILDING DIVISION
NEW KA'U DISTRICT GYMNASIUM &
SHELTER AT KA'U AND PAHALA
ELEMENTARY SCHOOL CAMPUS

PA'U'AU AHUPUAA, DISTRICT, HAWAII
ISLAND AND COUNTY OF HAWAII
96-2150 PIKAKE STREET, PAHALA, HAWAII 96777

TMK: (3) 9-6-05: 08 & 39

PARTIAL GYM LOWER ROOF MECHANICAL PLAN

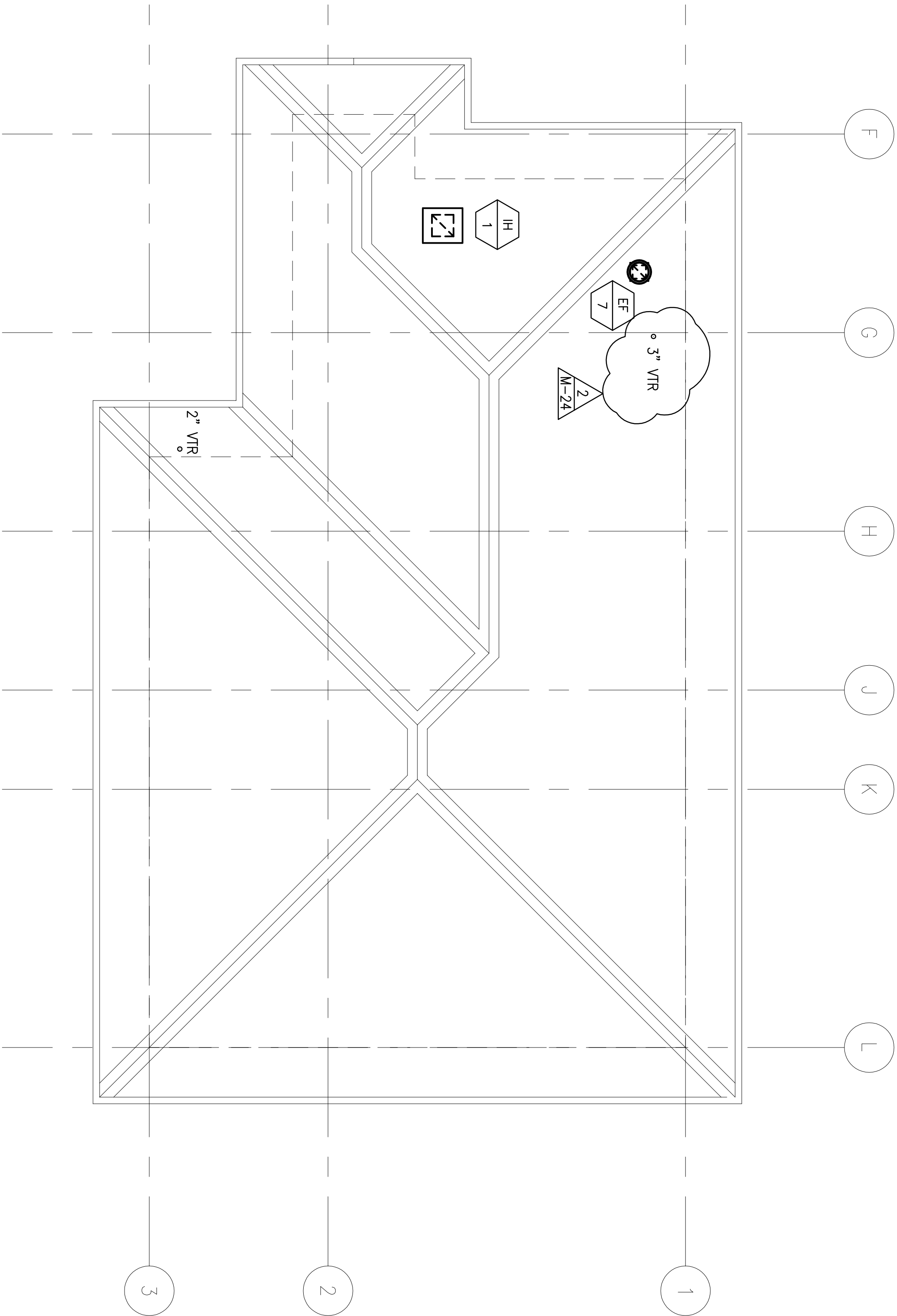
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DESIGN BY:	DN/RE
DRAWN BY:	CADD
CHECKED BY:	DN
SHEET NO.	

DIVISION CHIEF
BUILDING DIVISION
DEPARTMENT OF PUBLIC WORKS

DATE
2012 APR-6

M-13



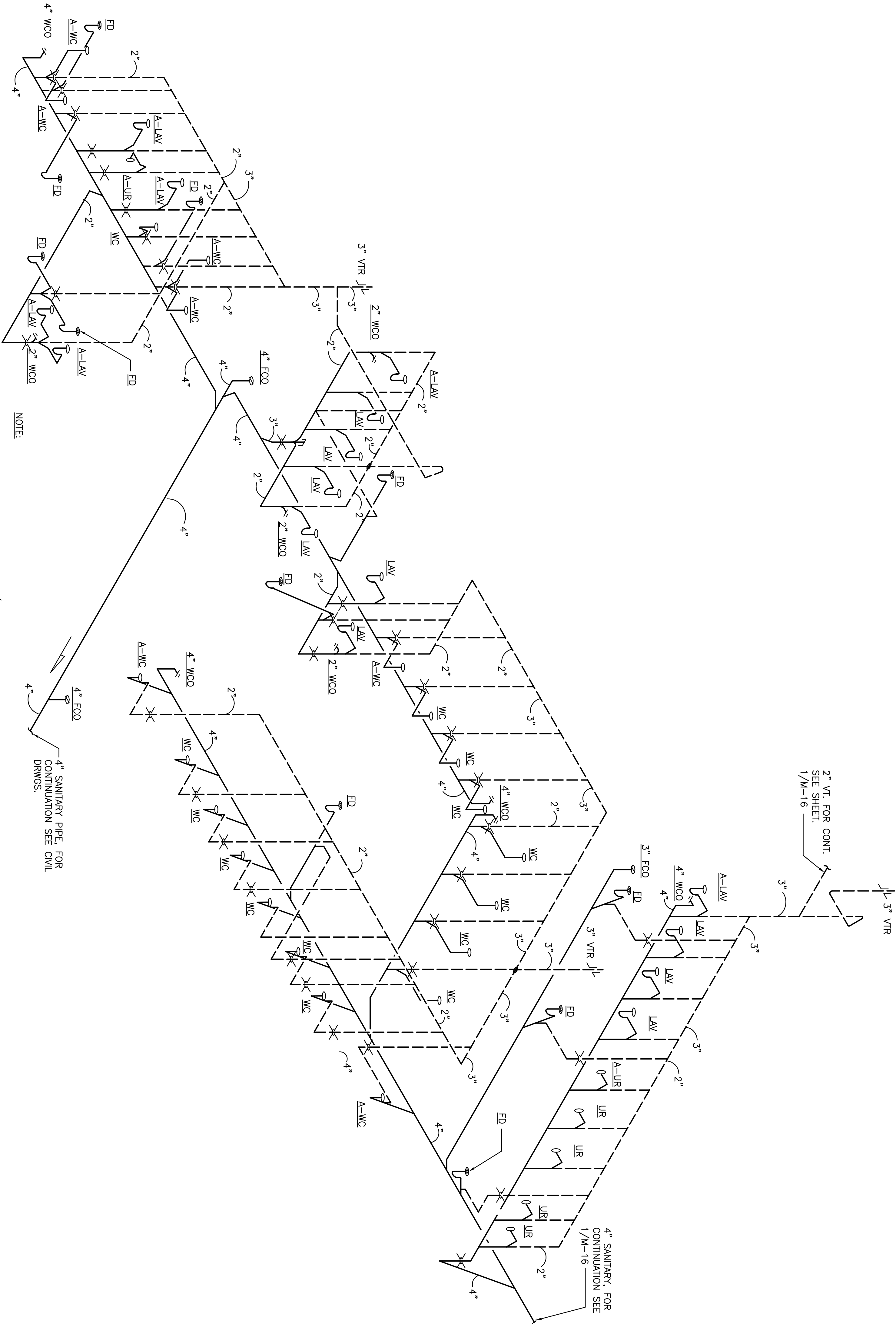
A MULTI-PURPOSE BUILDING MECHANICAL ROOF PLAN
SCALE: 1/8" = 1'-0"

2		5-9-12		CLARIFICATION		DN			
REVISION		DATE		DESCRIPTION		MADE BY		APPROVED	
COUNTY OF HAWAII DEPARTMENT OF PUBLIC WORKS, BUILDING DIVISION NEW KA'U DISTRICT GYMNASIUM & SHELTER AT KA'U AND PAHALA ELEMENTARY SCHOOL CAMPUS JOB NO. B-4108 PA'AU AHUPU'UA, DISTRICT HAWAII 96-2150 PINE STREET, PAHALA, HAWAII 96777 TMMK (3) 9-6-05; 08 & 39									
MULTI-PURPOSE BUILDING MECHANICAL ROOF PLAN									
REVIEWED:						DESIGN BY: DNIE DRAWN BY: CAD CHECKED BY: DN			
DIVISION CHIEF BUILDING DIVISION DEPARTMENT OF PUBLIC WORKS						DATE 2012 APR-5			
MISUNIGA & ASSOCIATES						SHEET NO. M-14 151 OF 190 SHTS			

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Daniel L. Magaña

DANIEL L. MAGAÑA
LICENSED PROFESSIONAL ENGINEER
14505-M
HAWAII, U.S.A.
EXPIRES 4/30/14

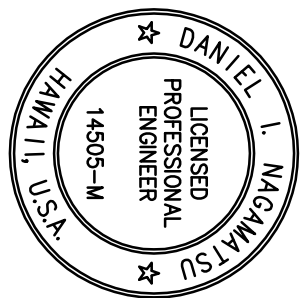


NOTE:

1. FOR PLUMBING PLAN, SEE SHEET A/M-6

2 MAIN GYM RESTROOMS SANITARY PIPING DIAGRAM

M-17
NOT TO SCALE



EXPIRES 4/30/14

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MISUNIGA & ASSOCIATES

COUNTY OF HAWAII
DEPARTMENT OF PUBLIC WORKS, BUILDING DIVISION
NEW KA'U DISTRICT GYMNASIUM & SHELTER AT KA'U AND PAHALA ELEMENTARY SCHOOL CAMPUS
JOB NO. B-4108
PA'AU AHUPUANA, DISTRICT HAWAII
96-2150 PINE STREET, PAHALA, HAWAII 96777
TWC (3) 94-05108 & 39

SANITARY PIPING DIAGRAM

REVIEWED:

DESIGN BY: DME
DRAWN BY: CAD
CHECKED BY: DNI

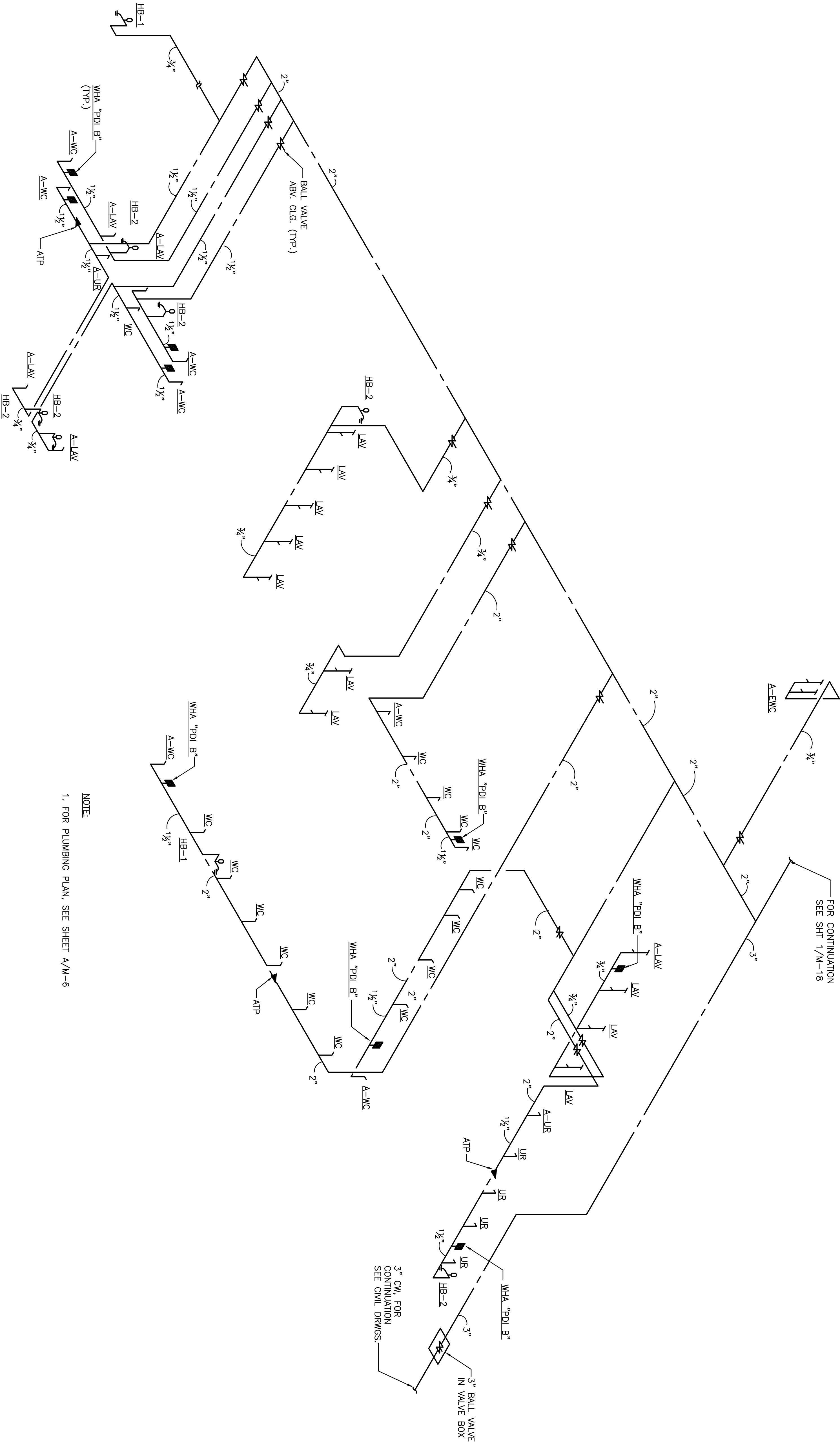
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M-17

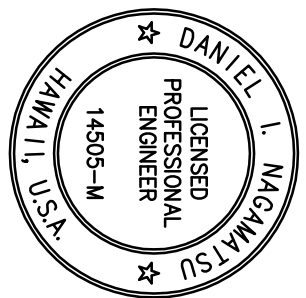
DIVISION CHIEF
BUILDING DIVISION
DEPARTMENT OF PUBLIC WORKS

DATE
2012 APR-5

154 OF 190 SHEETS



1 MAIN GYM RESTROOMS WATER PIPING
M-19 DIAGRAM
NOT TO SCALE



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MISUNIGA & ASSOCIATES

COUNTY OF HAWAII
DEPARTMENT OF PUBLIC WORKS, BUILDING DIVISION
NEW KA'U DISTRICT GYMNASIUM & SHELTER AT KA'U AND PAHALA ELEMENTARY SCHOOL CAMPUS
JOB NO. B-4108
PA'AU AHUPU'UA, DISTRICT HAWAII
96-2150 PINE STREET, HAWAII, HAWAII 96777
TMM: (3) 9-6-05; 08 & 39

WATER PIPING DIAGRAM

REVIEWED:

DESIGN BY: DME
DRAWN BY: CAD
CHECKED BY: DNI

DATE

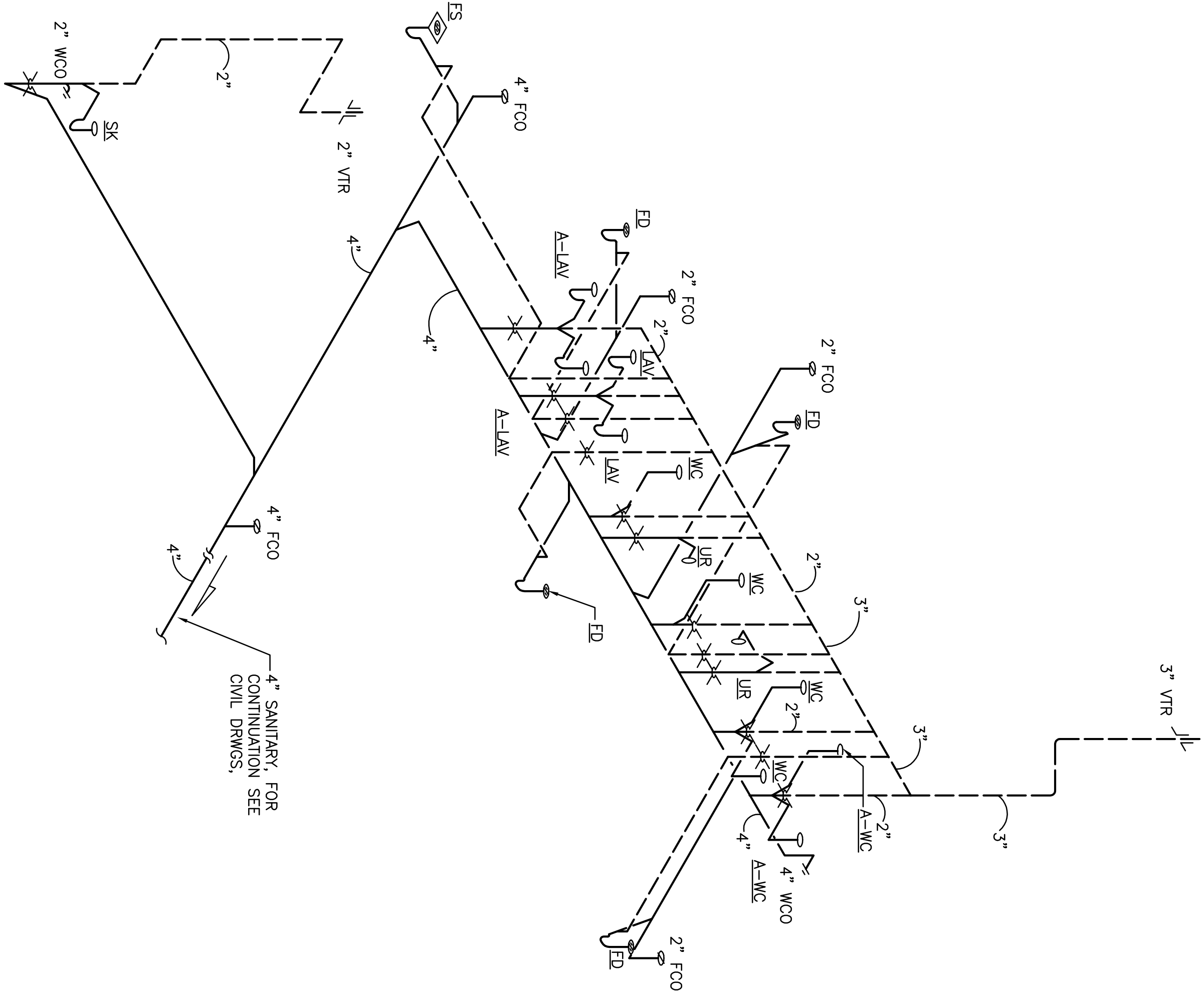
DIVISION CHIEF
BUILDING DIVISION
DEPARTMENT OF PUBLIC WORKS

2012 APR-5

SHEET NO.

M-19

156 OF 190 SHEETS



NOTE:

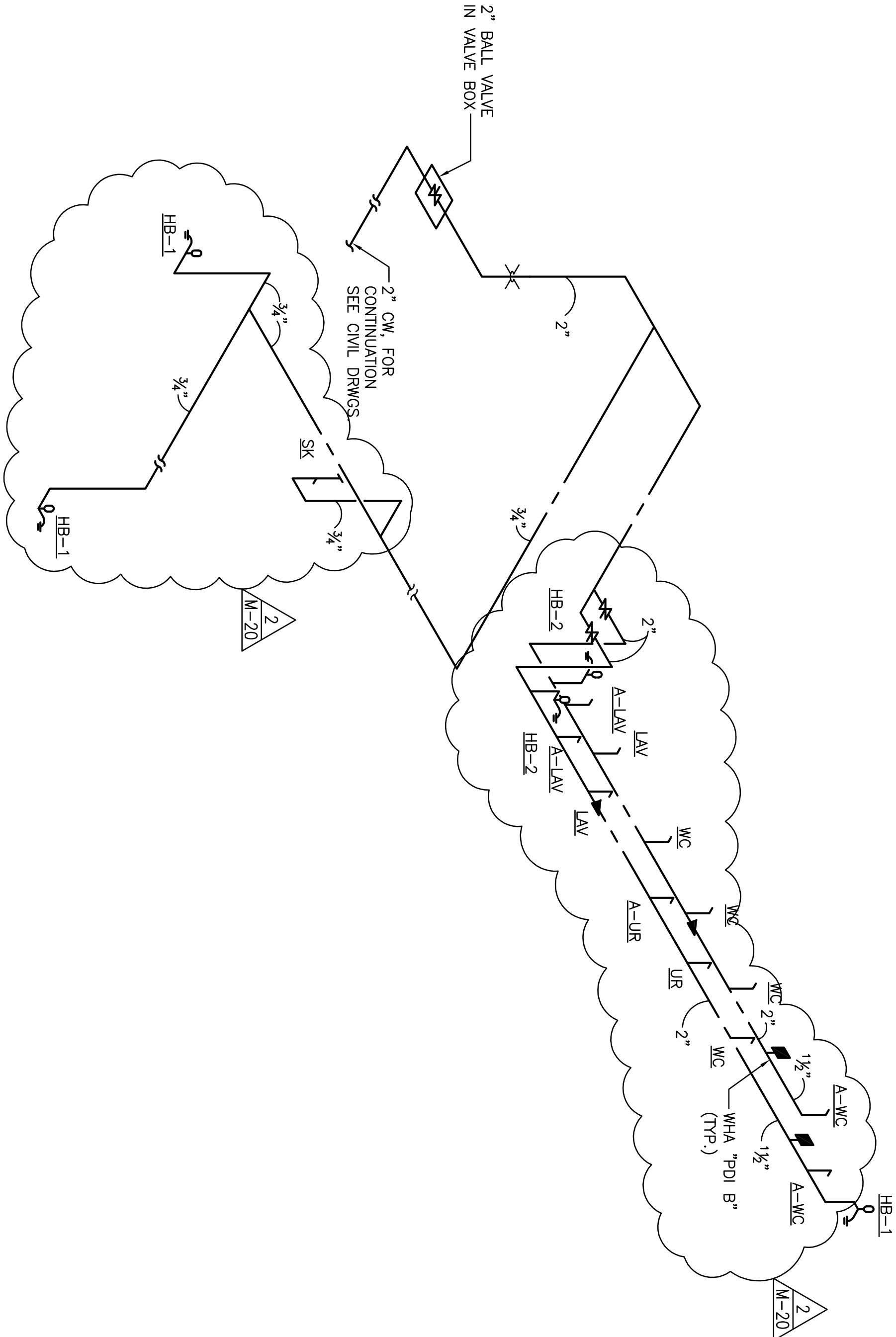
1. FOR PLUMBING PLAN, SEE SHEET A/M-5

1

M-20

MULTI-PURPOSE BLDG. SANITARY PIPING DIAGRAM

NOT TO SCALE



NOTE:

1. FOR PLUMBING PLAN, SEE SHEET A/M-5

2

M-20

MULTI-PURPOSE BLDG. WATER PIPING DIAGRAM

NOT TO SCALE

2		5-9-12		CLARIFICATION	
REVISION		DATE		DESCRIPTION	
				COUNTY OF HAWAII	
				DEPARTMENT OF PUBLIC WORKS, BUILDING DIVISION	
				NEW KAU DISTRICT GYMNASIUM & SHELTER AT KAU AND PAHALA ELEMENTARY SCHOOL CAMPUS	
				JOB NO. B-4108	
				PAUHAU, DISTRICT HAWAII	
				96-2150 PINE STREET, PAHALA, HAWAII 96777	
				TMMK (3) 9-6-05; 08 & 39	
				MULTI-PURPOSE BLDG. SANITARY & WATER PIPING DIAGRAM	
				REVIEWED:	
				DESIGN BY: DNEE	
				DRAWN BY: CAD	
				CHECKED BY: DNI	
				SHEET NO.	
				M-20	
				DATE	
				2012 APR-5	
				DIVISION CHIEF	
				BUILDING DIVISION	
				DEPARTMENT OF PUBLIC WORKS	
				157 OF 190 SHTS	

EXPIRES 4/30/14

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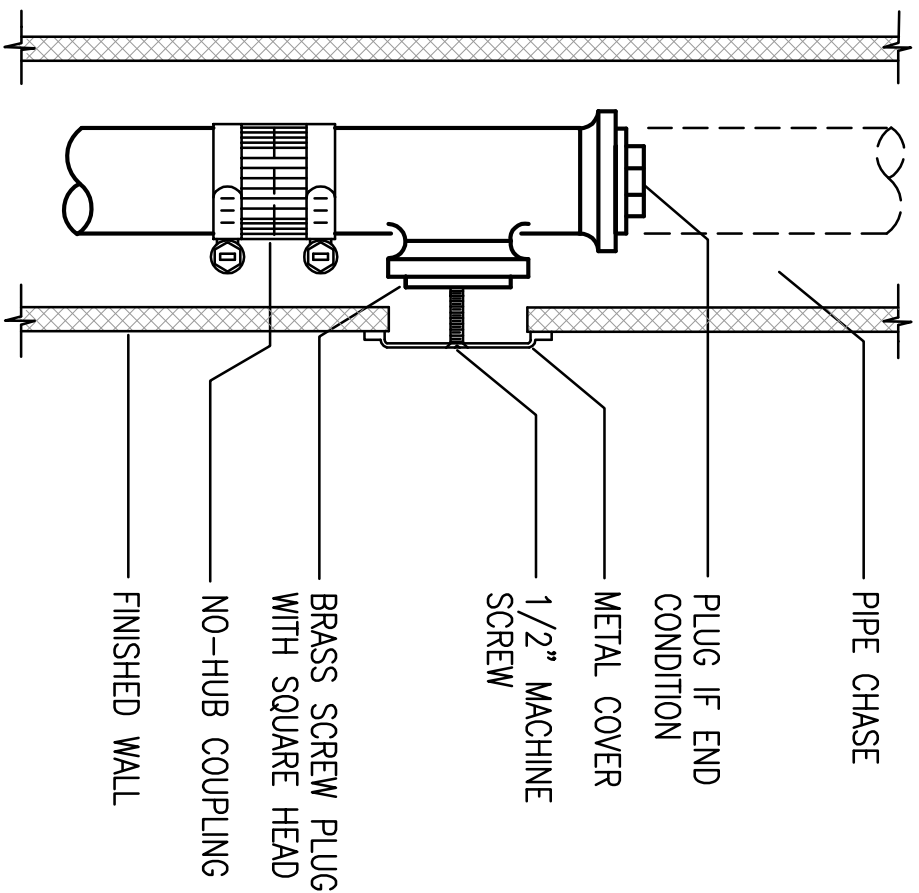
Daniel I. Magana

Daniel I. Magana

LICENSED PROFESSIONAL ENGINEER

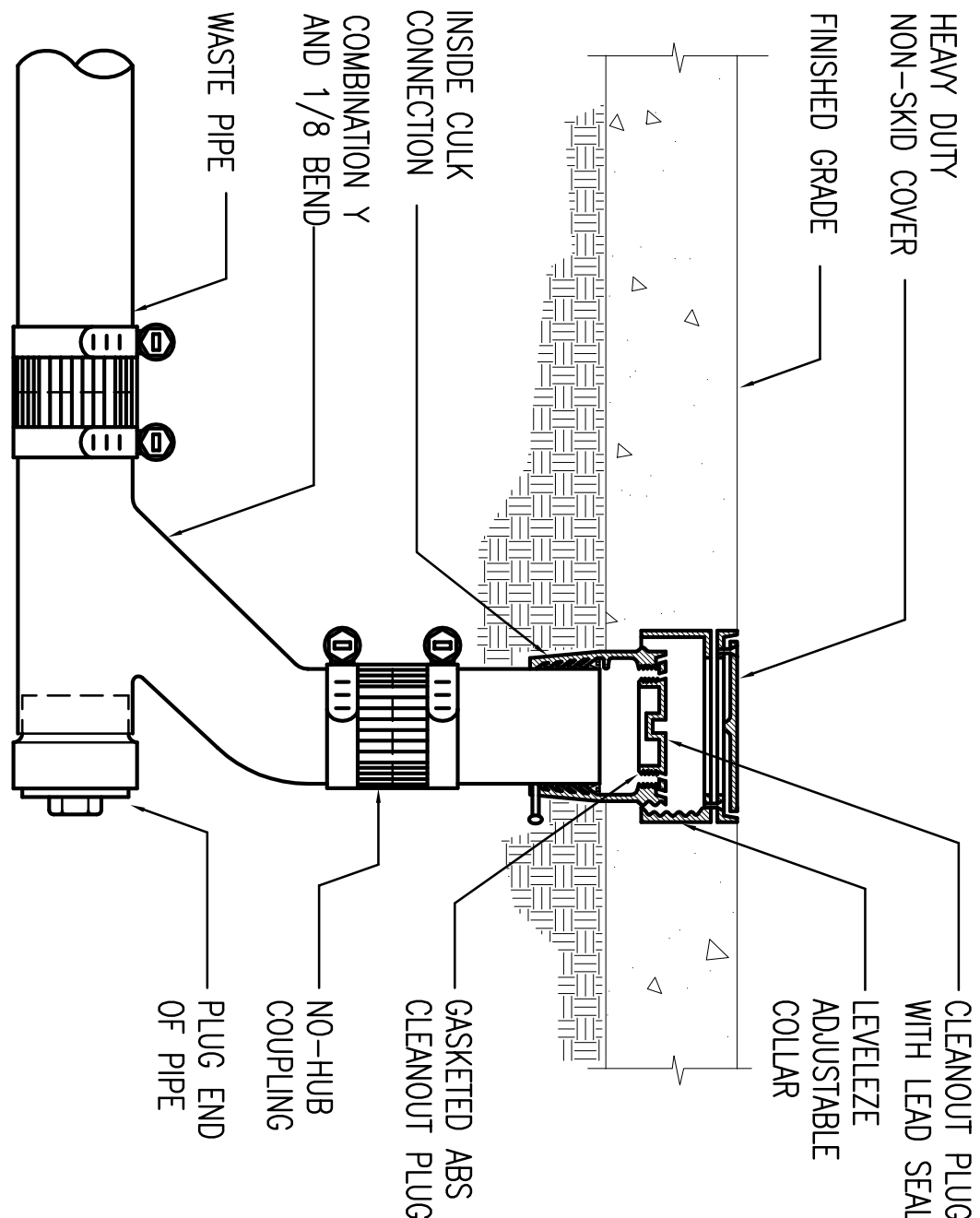
14505-M

HAWAII, U.S.A.



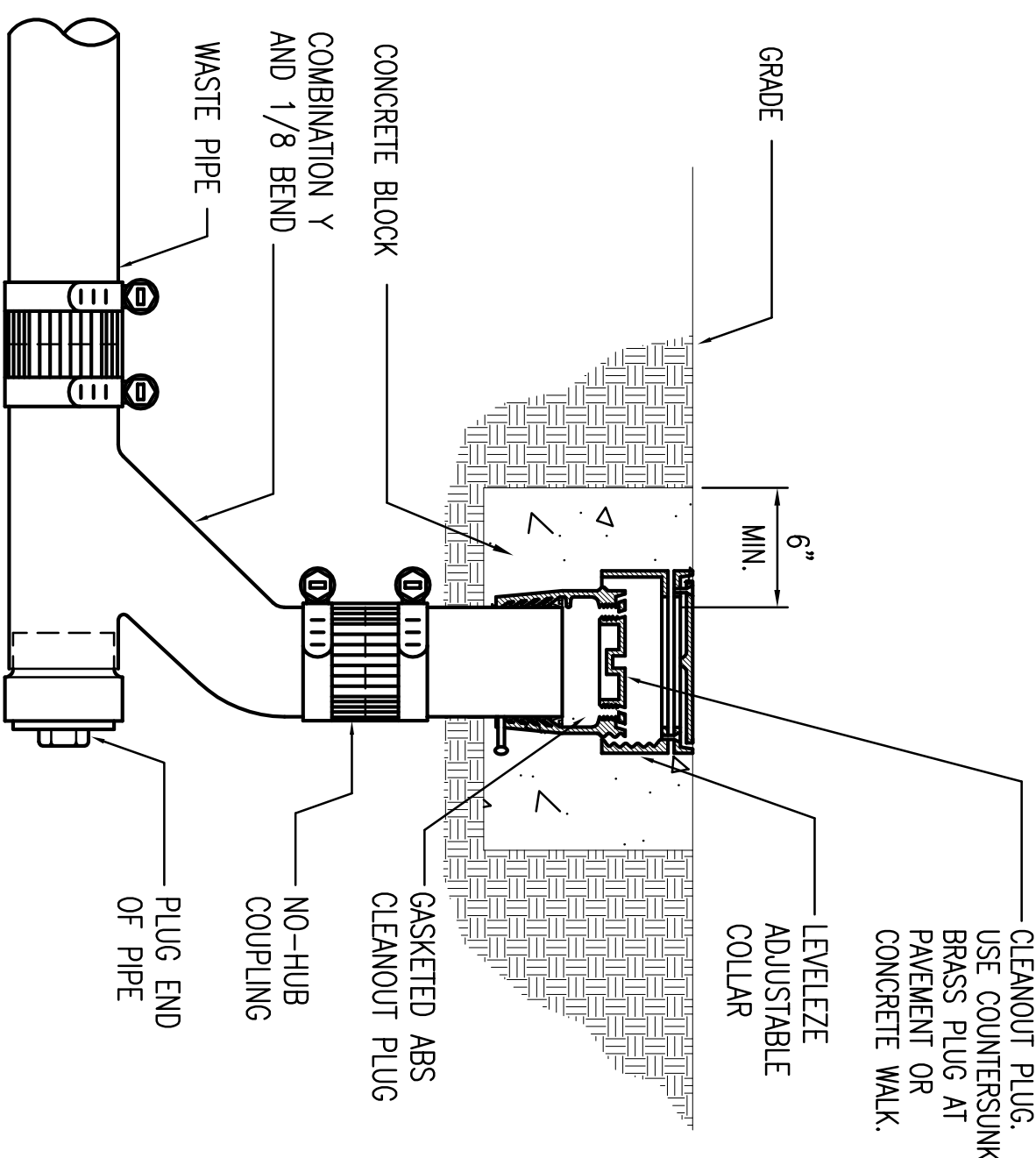
1 TYPICAL WALL CLEANOUT DETAIL

M-21 NOT TO SCALE



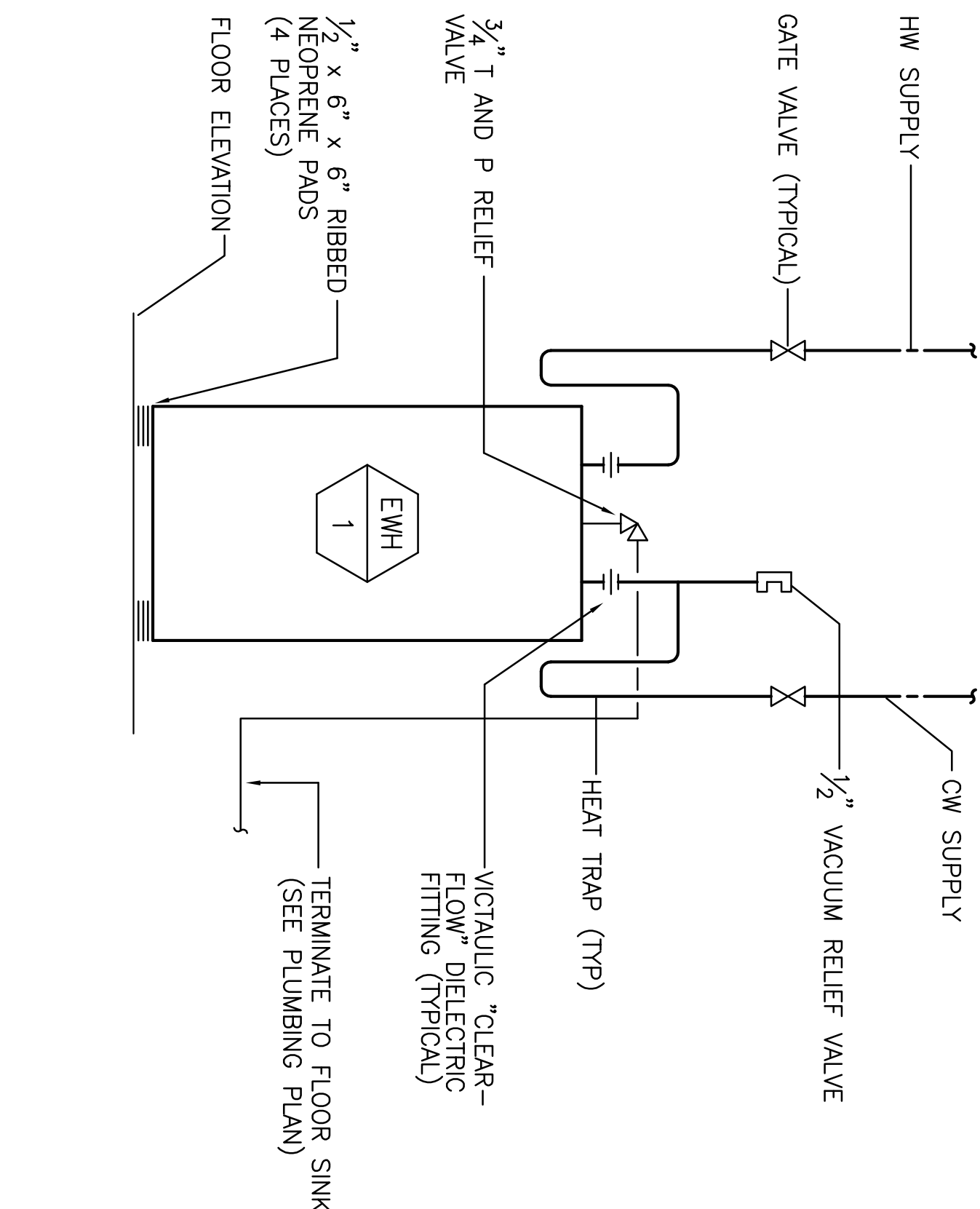
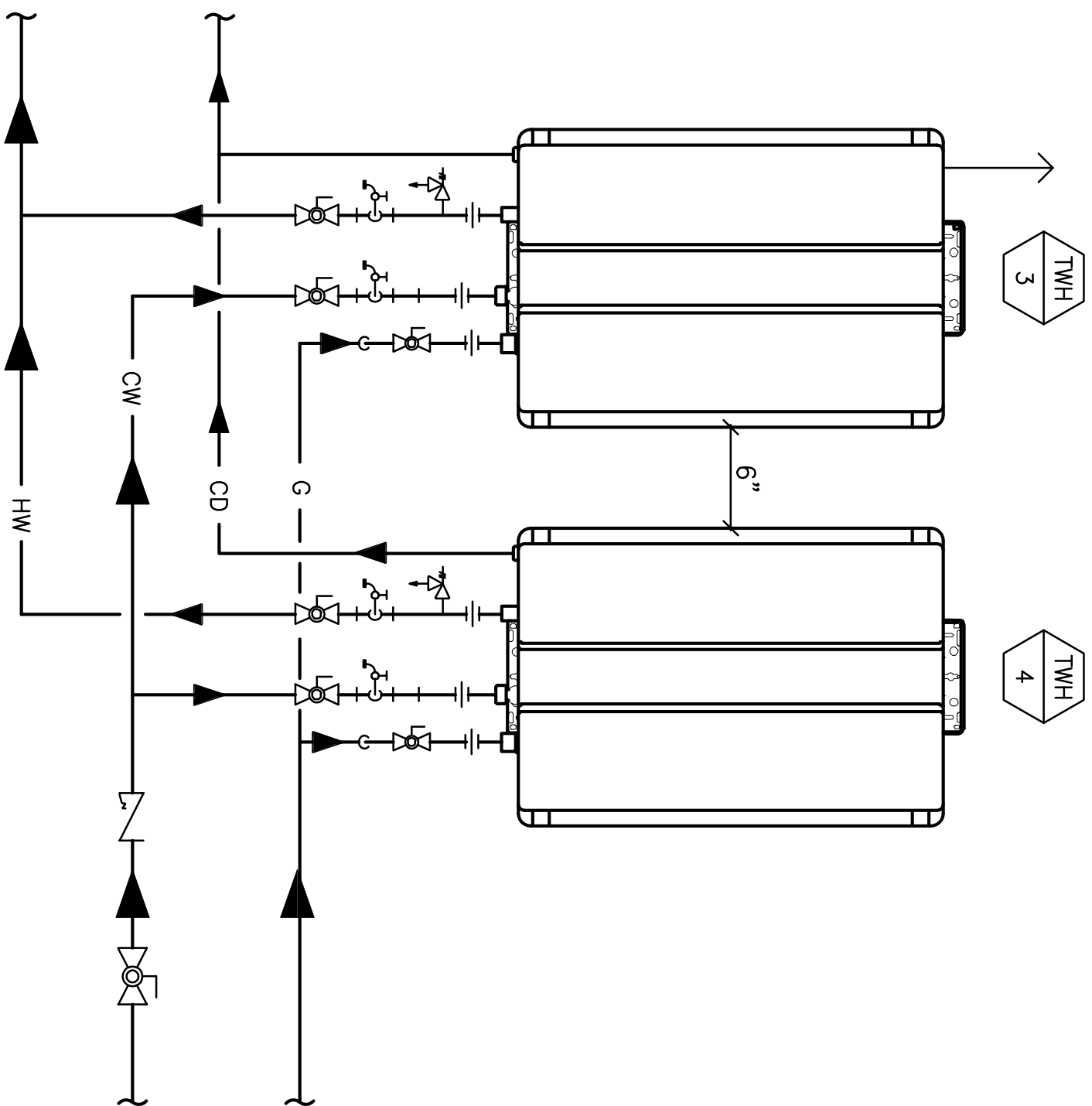
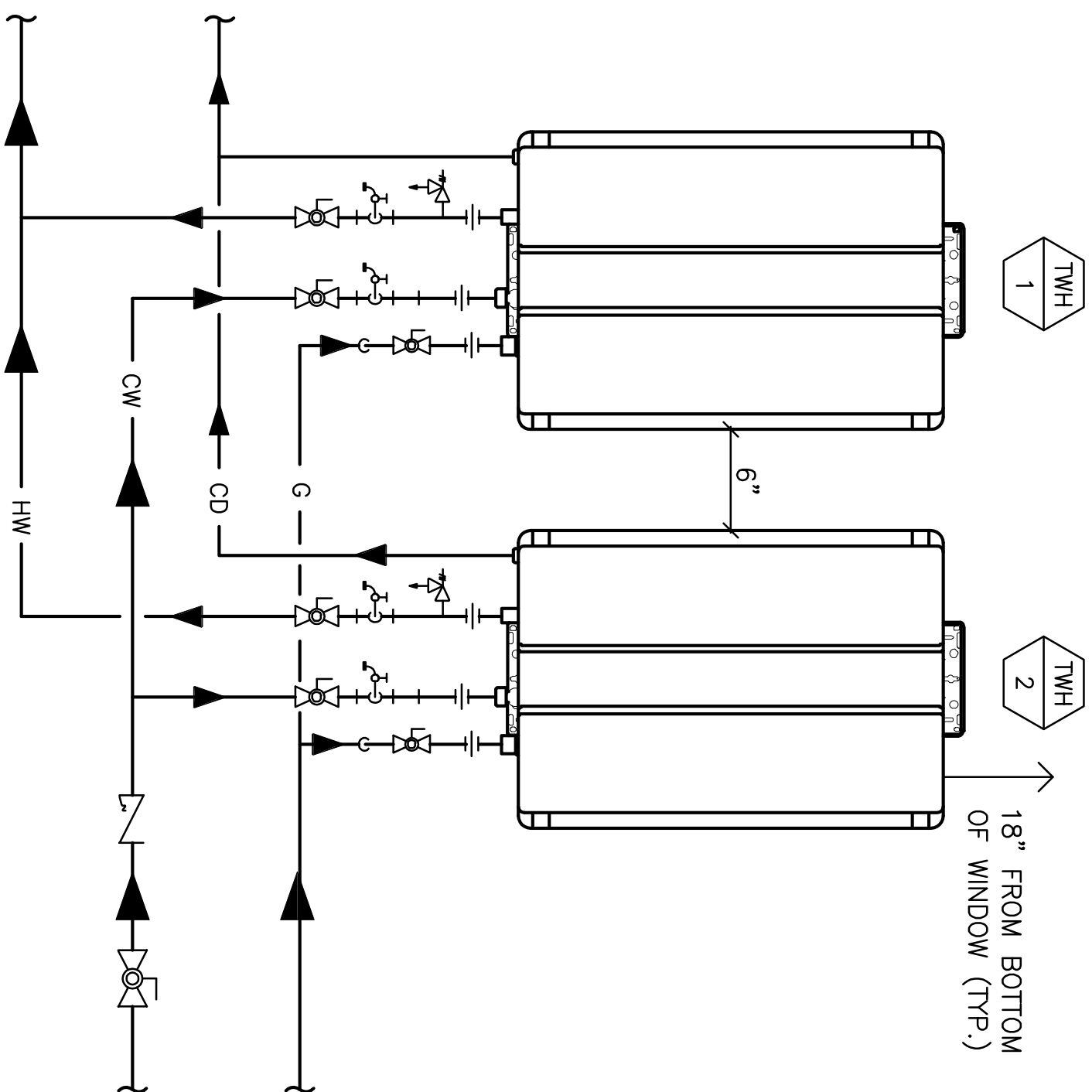
2 TYPICAL FLOOR CLEANOUT DETAIL

M-21 NOT TO SCALE



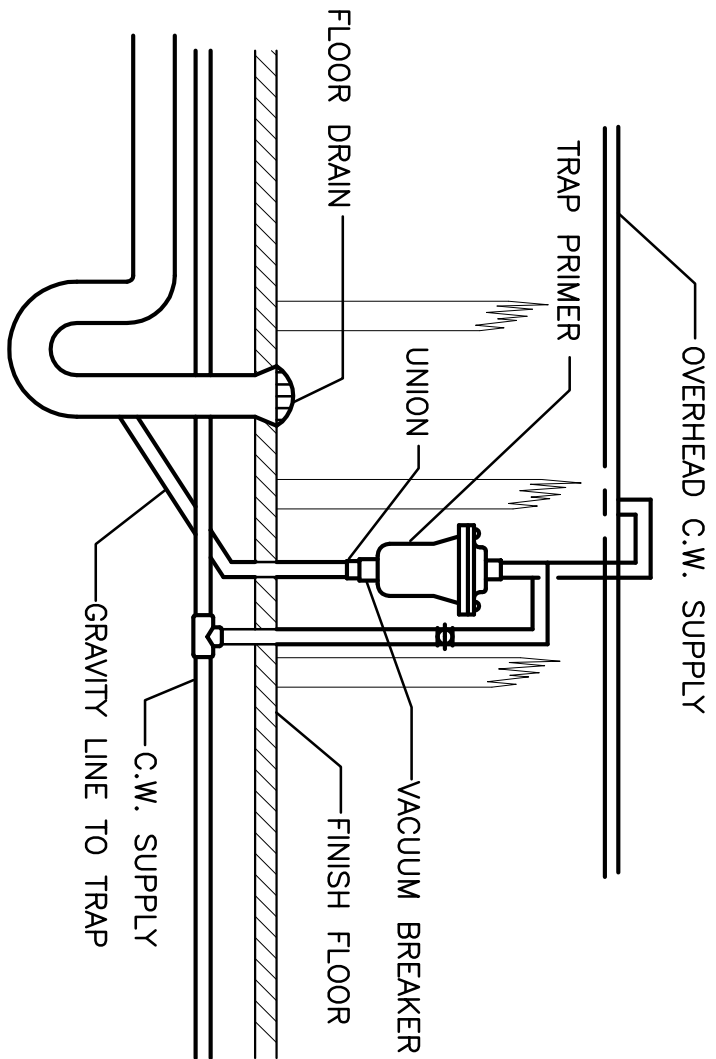
3 TYPICAL CLEANOUT TO GRADE DETAIL

M-21 NOT TO SCALE



5 ELECTRIC WATER HEATER DETAIL

M-21 NOT TO SCALE



6 TYPICAL TRAP PRIMER DETAIL

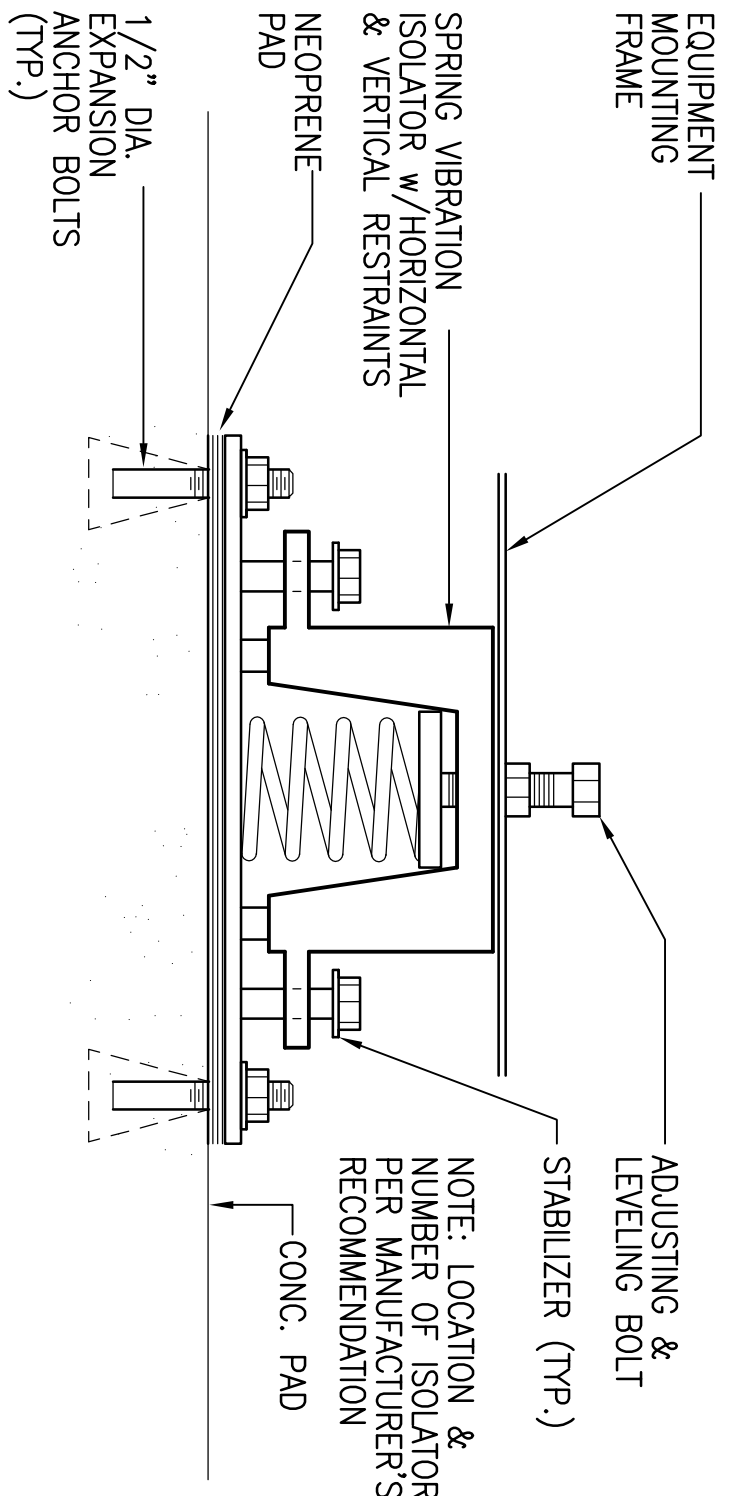
M-21 NOT TO SCALE

- NOTES:
1. CONDENSATE PIPING SHALL BE CPVC OR PVC MATERIAL AND SHALL NOT BE SMALLER THAN THE DRAIN CONNECTION ON THE APPLIANCE.
 2. COMPONENTS OF THE CONDENSATE DRAINAGE SHALL BE CPVC OR PVC MATERIAL. ALL COMPONENTS SHALL BE SELECTED FOR THE PRESSURE AND TEMPERATURE RATING OF THE INSTALLATION.
 3. REFER TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS FOR INSTALLATION DETAILS.

4 TYPICAL TANKLESS WATER HEATER SCHEMATIC DIAGRAM

M-21 NOT TO SCALE

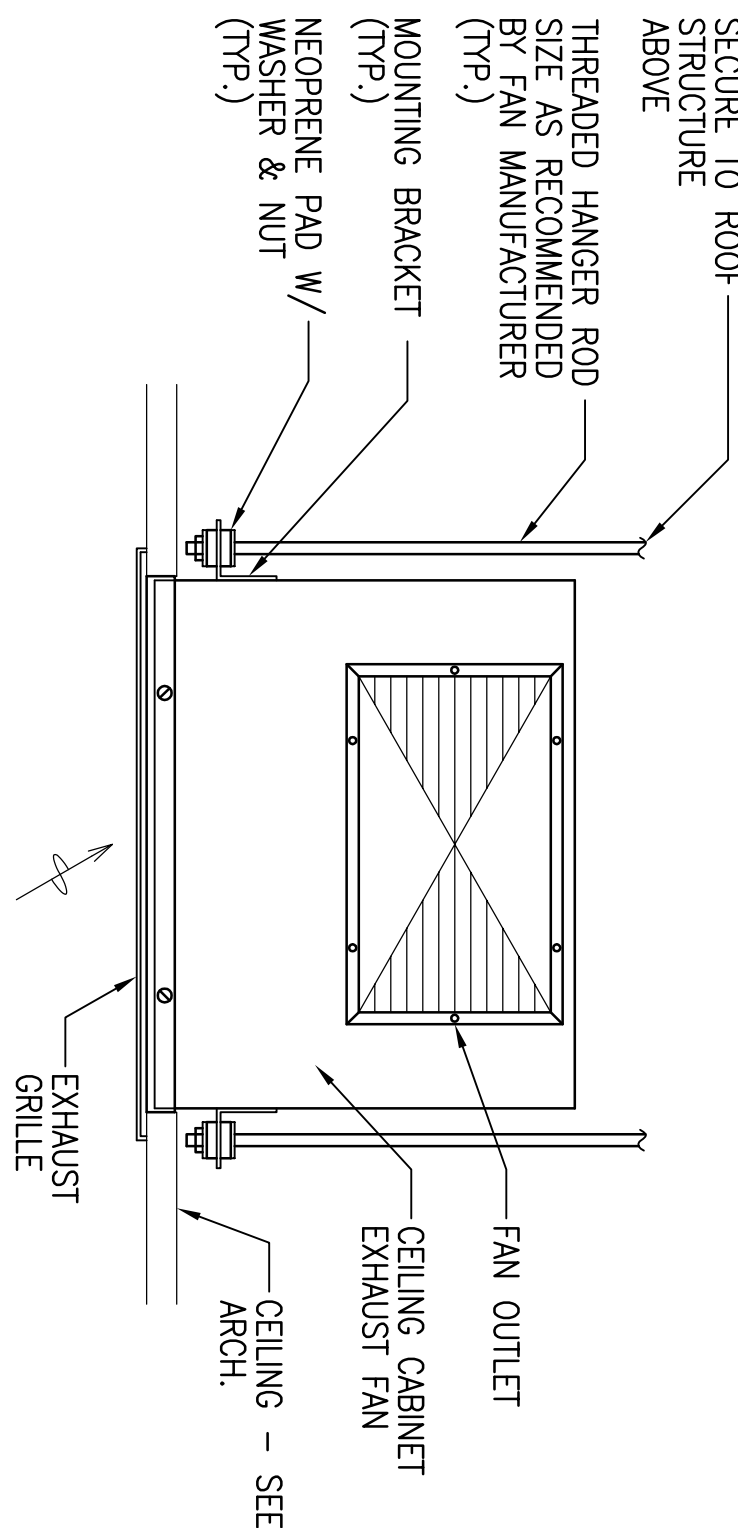
REVISION		DATE		DESCRIPTION		MADE BY		APPROVED	
2		5-9-12		CLARIFICATION		DN			
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EXPIRES 4/30/14									
DANIEL L. MAGNANUS LICENSED PROFESSIONAL ENGINEER 14505-44 HAWAII, U.S.A.									
COUNTY OF HAWAII DEPARTMENT OF PUBLIC WORKS, BUILDING DIVISION NEW KAU DISTRICT GYMNASIUM & SHELTER AT KAU AND PAHALA ELEMENTARY SCHOOL CAMPUS JOB NO. B-4108 PAALU AHUPUANA DISTRICT HAWAII 96-2150 PALAKE STREET PALA HAWAII 96777 TMK: (3) 9-6-05: 08 & 39									
REVIEWED:									
DIVISION CHIEF BUILDING DIVISION DEPARTMENT OF PUBLIC WORKS									
DATE 2012 APR-5									
DESIGN BY: DNIE DRAWN BY: CAD CHECKED BY: DN SHEET NO. M-21									
150 OF 190 SHITS									



NOTE: MINIMUM 2" DEFLECTION ISOLATORS FOR AHU. MINIMUM 1" DEFLECTION ISOLATORS FOR ACQU.

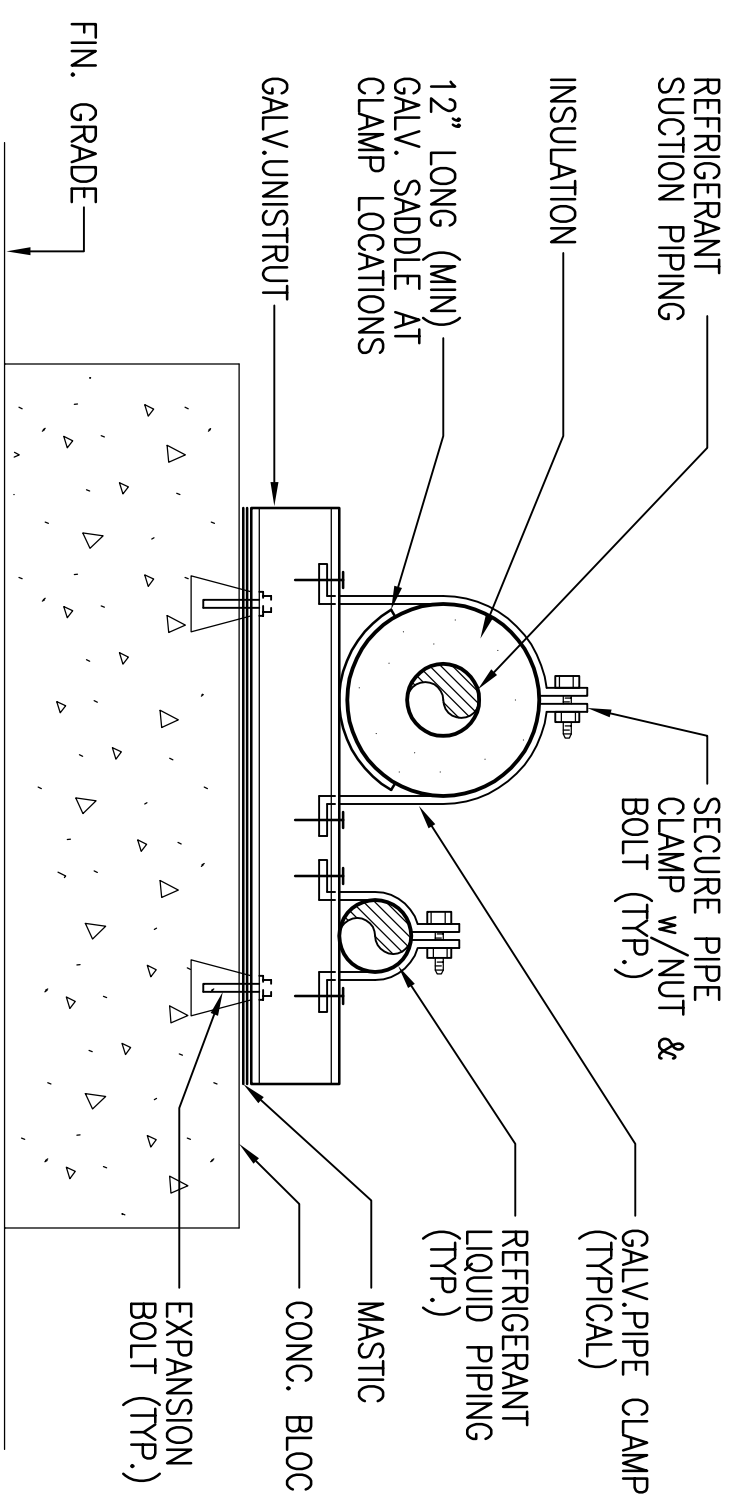
1 EQUIPMENT MOUNTING DETAIL

M-22 NOT TO SCALE



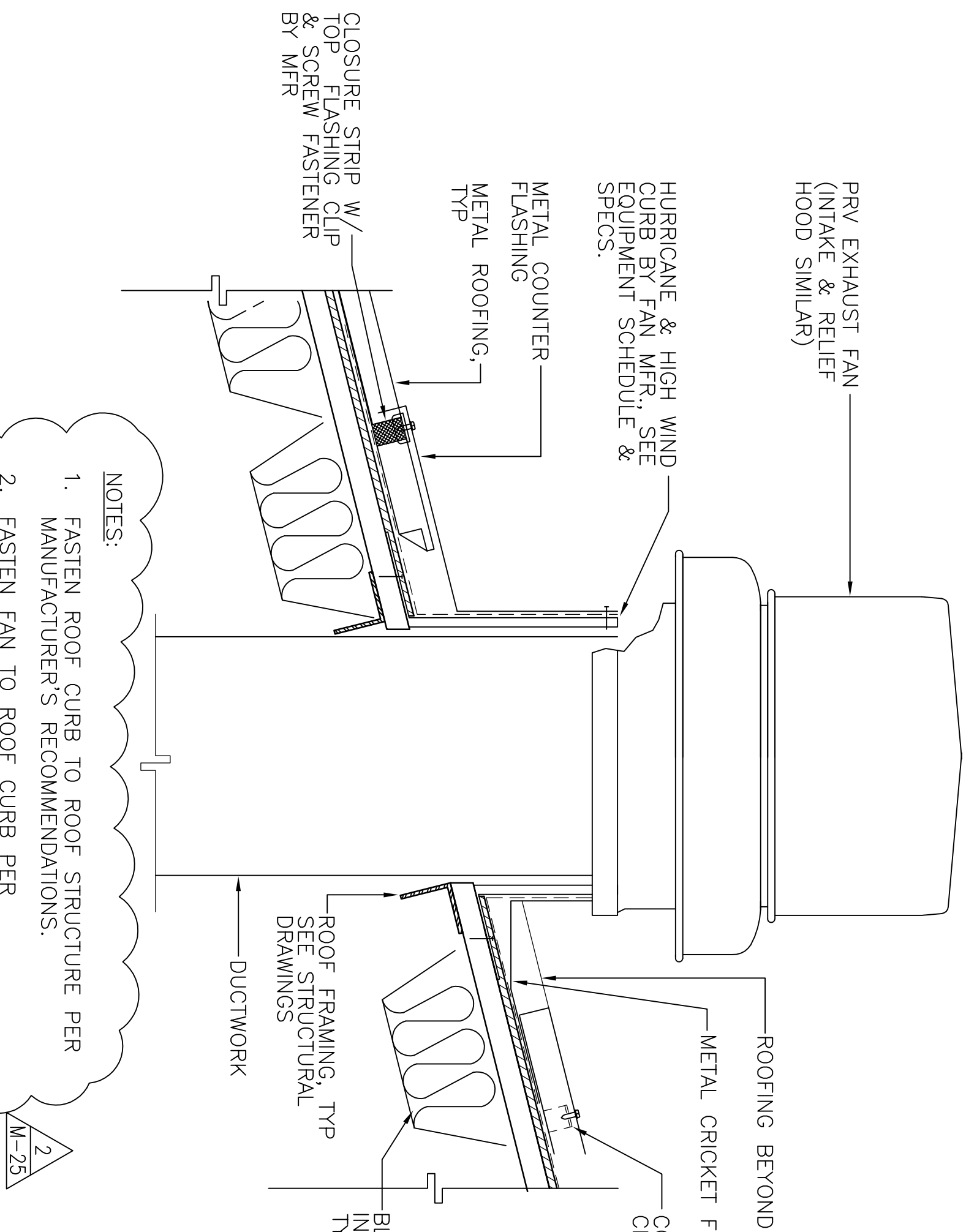
2 CEILING CABINET EXHAUST FAN MOUNTING DETAIL

M-22 NOT TO SCALE



3 REFRIGERANT PIPE SUPPORT DETAIL

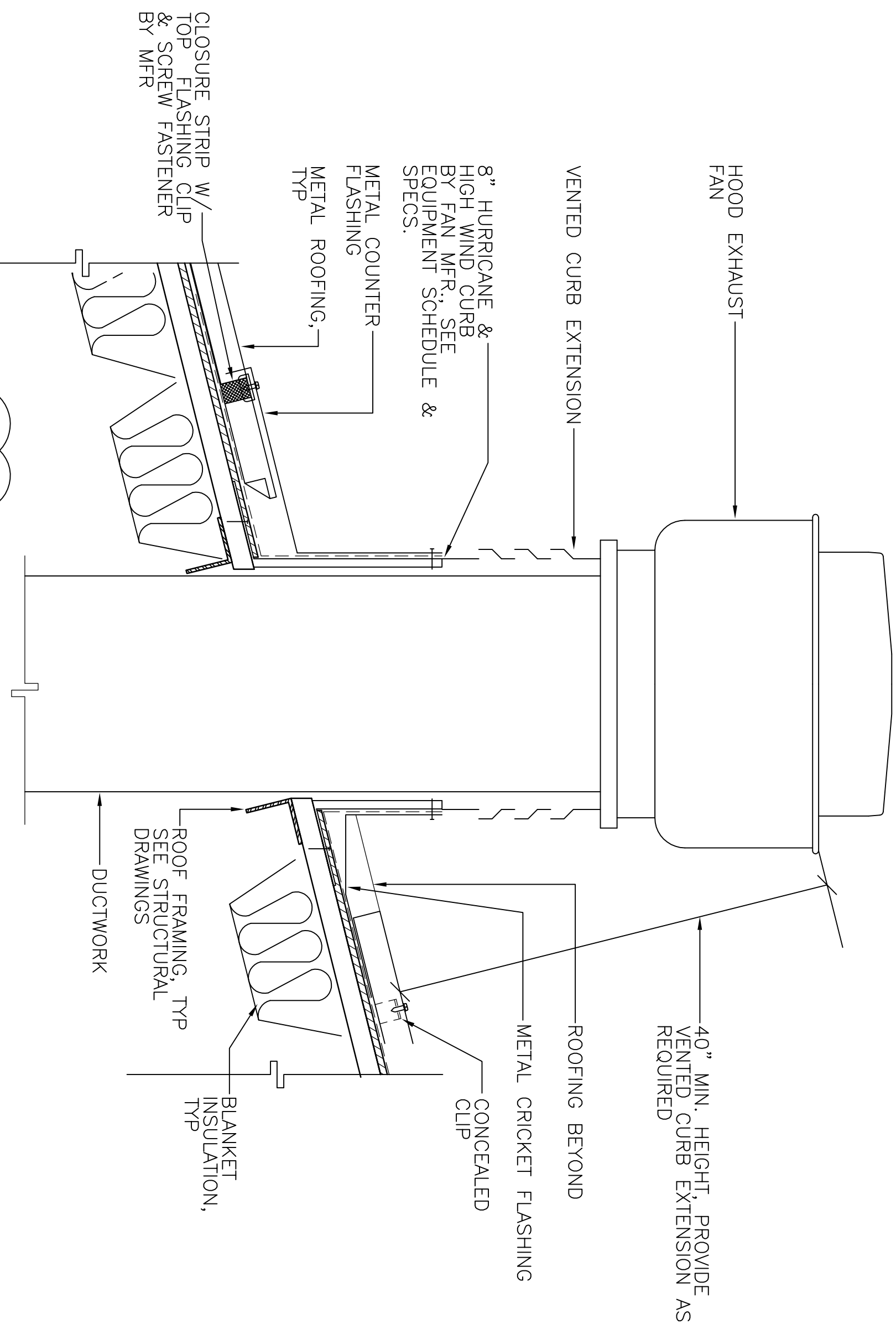
M-22 NOT TO SCALE



- NOTES:
1. FASTEN ROOF CURB TO ROOF STRUCTURE PER MANUFACTURER'S RECOMMENDATIONS.
 2. FASTEN FAN TO ROOF CURB PER MANUFACTURER'S RECOMMENDATIONS (INTAKE & EXHAUST HOOD SIMILAR).
 3. COORDINATE ROOF OPENING WITH ARCHITECTURAL DRAWINGS.
 4. COORDINATE ROOFING AND ROOF FLASHING WITH ARCHITECTURAL.

4 P.R.V. DETAIL

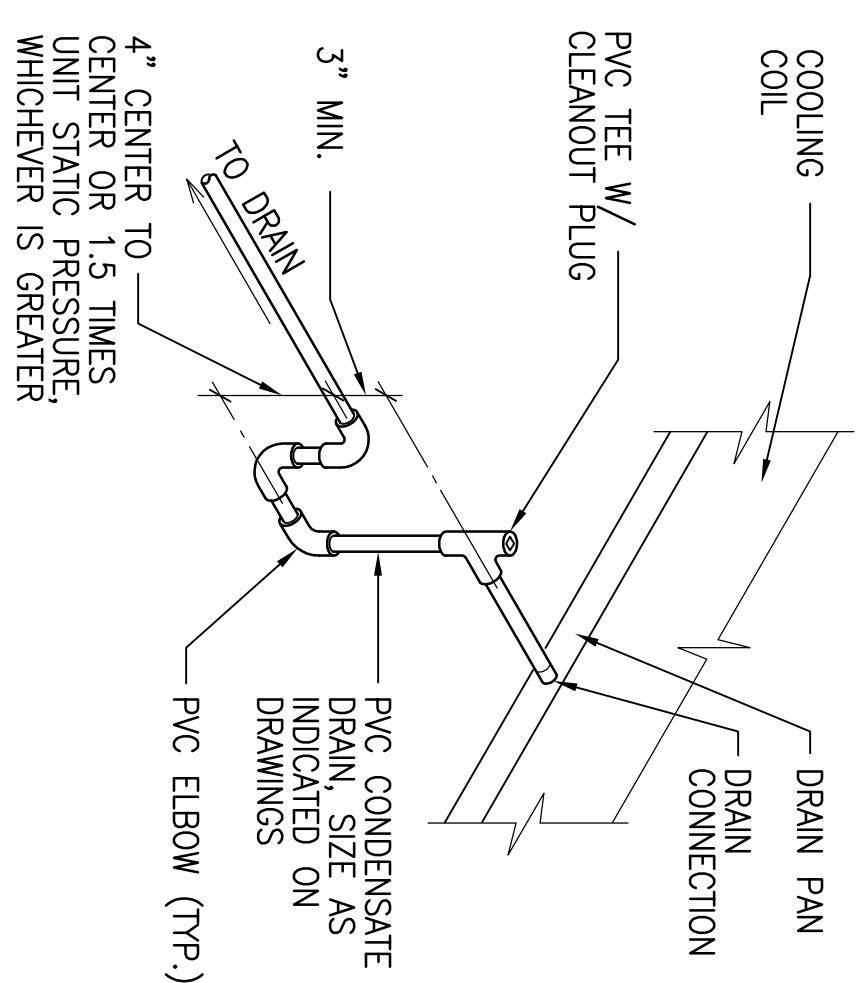
M-22 NOT TO SCALE



- NOTES:
1. FASTEN ROOF CURB TO ROOF STRUCTURE PER MANUFACTURER'S RECOMMENDATIONS.
 2. FASTEN FAN TO ROOF CURB PER MANUFACTURER'S RECOMMENDATIONS.
 3. COORDINATE ROOF OPENING WITH ARCHITECTURAL DRAWINGS.
 4. COORDINATE ROOFING AND ROOF FLASHING WITH ARCHITECTURAL.

5 KITCHEN EXHAUST FAN DETAIL

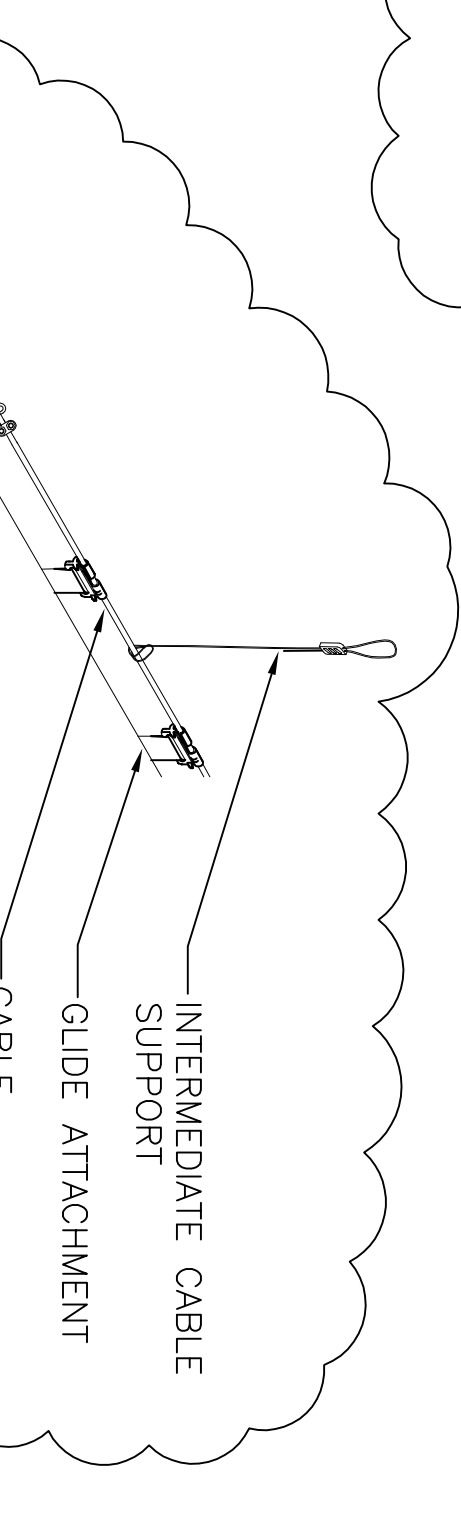
M-22 NOT TO SCALE



NOTE: SLOPE CONDENSATE PIPING DOWN TOWARD DRAIN AT NOT LESS THAN 1/8\"/>

6 CONDENSATE DRAIN DETAIL

M-22 NOT TO SCALE

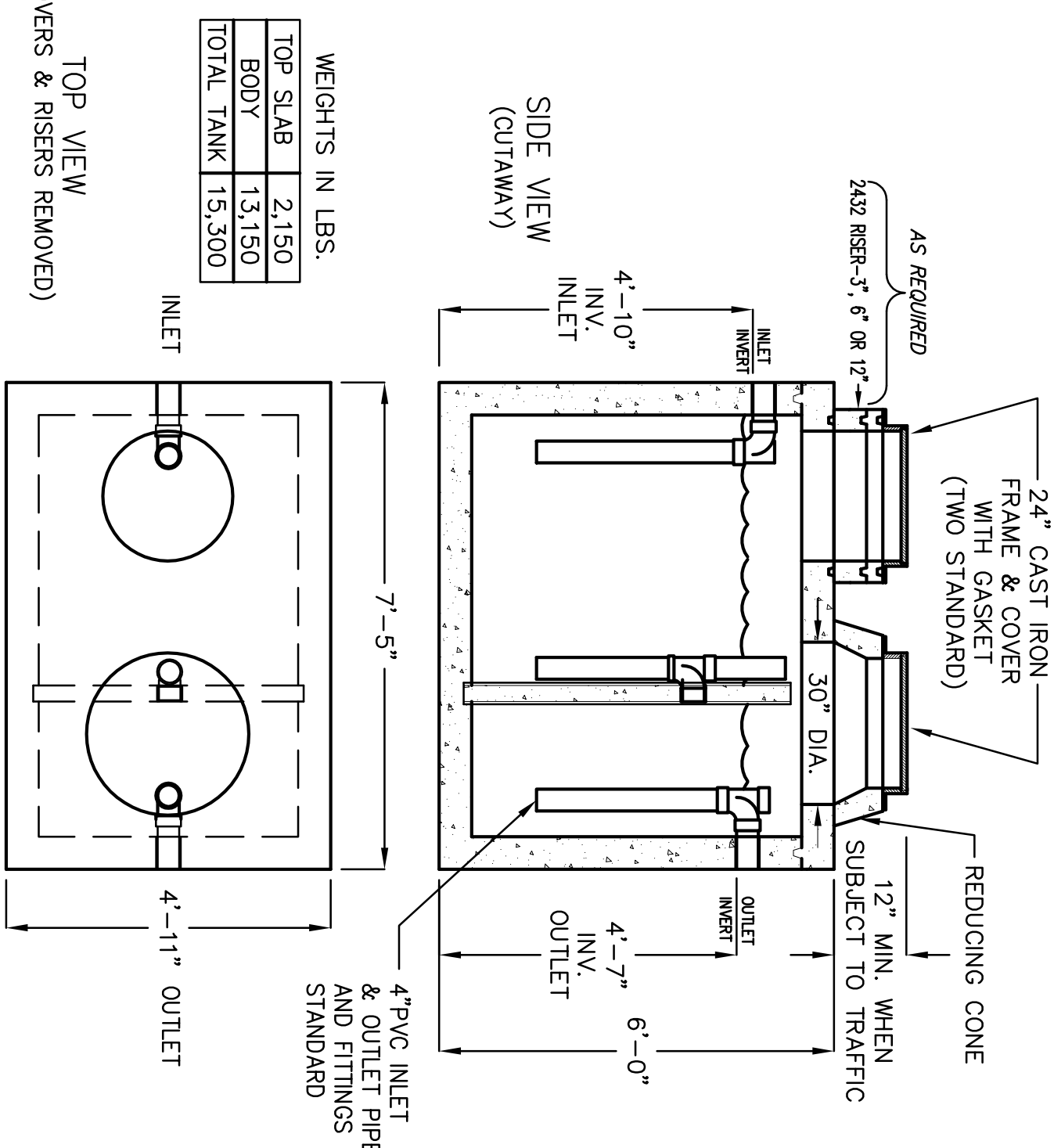


7 FABRIC DUCT HANGING DETAIL

M-22 NOT TO SCALE

2		5-9-12	CLARIFICATION	DESCRIPTION	COUNTY OF HAWAII DEPARTMENT OF PUBLIC WORKS, BUILDING DIVISION NEW KAUʻU DISTRICT GYMNASIUM & SHELTER AT KAU AND PAHALA ELEMENTARY SCHOOL CAMPUS JOB NO. B-4108 PAUʻAU AHUPUʻUA, DISTRICT HAWAII 96-2150 PINE STREET PAHALA, HAWAII 96777 TMO: (3) 94-051/08 & 39	DN	APPROVED
REVISION							
DATE							
DETAILS							
REVIEWED:							
DIVISION CHIEF BUILDING DIVISION DEPARTMENT OF PUBLIC WORKS							
DATE 2012 APR-5							
MITSUNAGA & ASSOCIATES		159 OF 190 SHTS					

**750 GALLON
GREASE INTERCEPTOR HAWAII
JENSEN MODEL HJ750G OR APPROVED EQUAL
TRAFFIC RATED ACCEPTED BY UPO.**

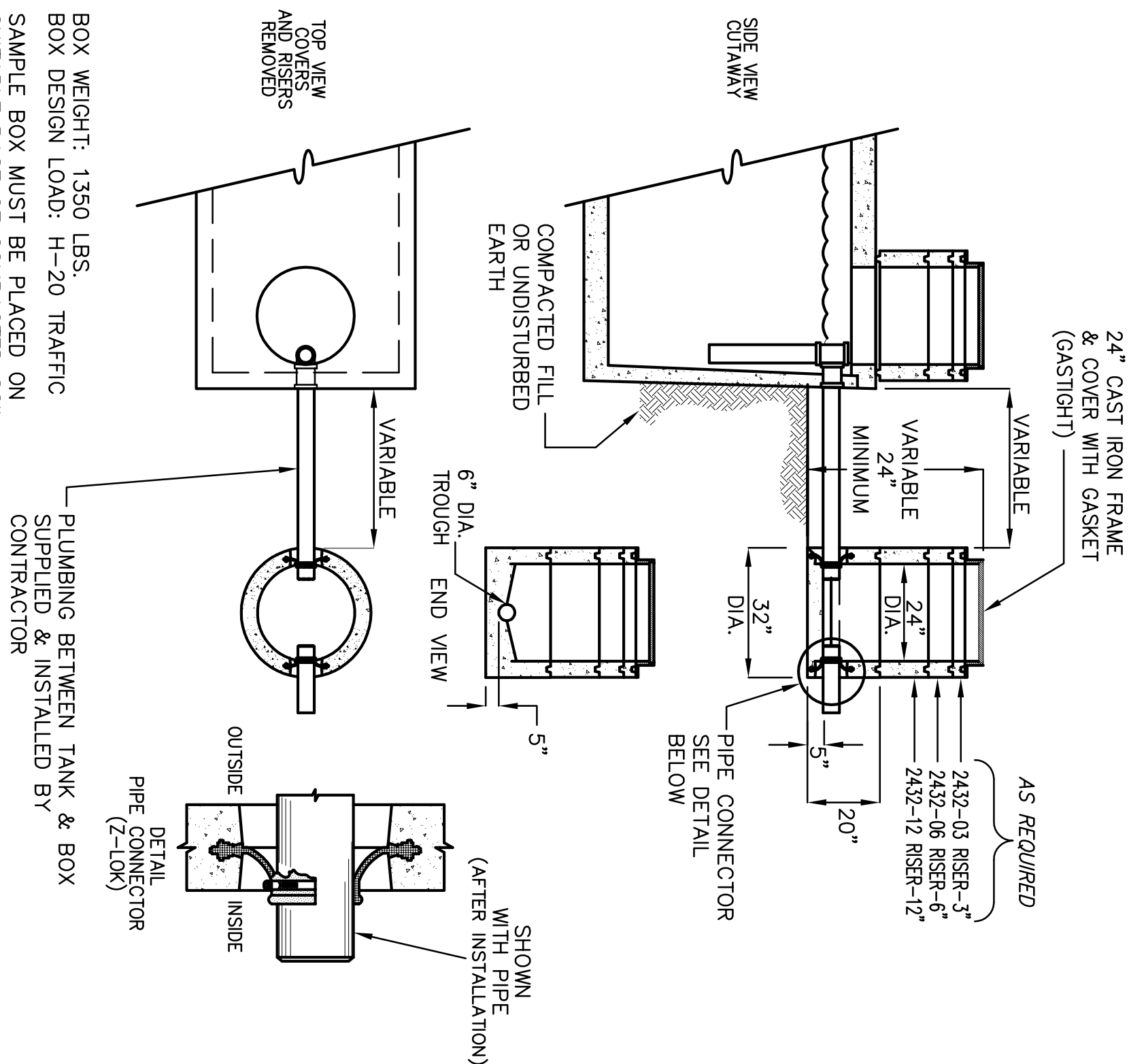


- LIQUID CAPACITY: 750 GALLONS.
- TANK DESIGNED FOR H-20 TRAFFIC WHEEL LOAD WITH 1' TO 6' MAX. EARTH COVER AND WATER TABLE AT ONE FOOT BELOW GRADE.
- SUITABLE NATIVE SOIL OR GRANULAR SUB-BASE SHALL BE COMPACTED AND LEVELED TO HANDLE ANTICIPATED LOADS. SEE INSTALLATION PROCEDURES SHEET FOR ADDITIONAL INFO.
- EXTERIOR AND INTERIOR CONCRETE SURFACES TO BE COATED WITH AN APPROVED BITUMINOUS MATERIAL.
- FOR COMPLETE DESIGN AND PRODUCT INFORMATION CONTACT JENSEN PRECAST.

GREASE INTERCEPTOR DETAIL

(M-23) NOT TO SCALE

**SAMPLE BOX
WITH PIPE CONNECTORS**
MODEL JENSEN EV200-H
OR APPROVED EQUAL



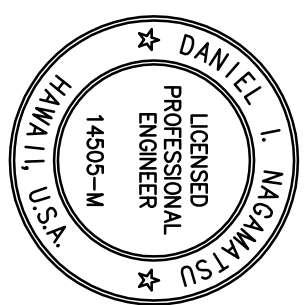
2 CONCRETE SAMPLE BOX DETAIL

(M-23) NOT TO SCALE

GREASE INTERCEPTOR AND SAMPLE BOX NOTES

1. ALL GREASE INTERCEPTOR SHALL BE LISTED WITH "UPC" (UNIFORM PLUMBING CODE AND "APMO" INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS) AND BEAR STAMPS SHOWING SUCH CERTIFICATIONS.
2. THE GREASE INTERCEPTOR CAPACITY SHALL BE 750 GALLONS AS APPROVED BY THE DESIGN ENGINEER PRIOR TO THE INSTALLATION.
3. 100% OF THE INTERIOR AND EXTERIOR OF THE INTERCEPTOR AND SAMPLE BOX SHALL BE COATED WITH ACID-RESISTANT COATING INCLUDING THE RING AND COVER.
4. 100% OF THE EXTERIOR OF THE INTERCEPTOR SUSCEPTIBLE TO GROUND WATER INTRUSIONS SHALL BE COATED WITH WATERPROOF MATERIAL.
5. GREASE INTERCEPTORS SHALL BE CONSTRUCTED WITH MANHOLES OVER THE INLET, OUTLET, AND Baffle WALL CROSSOVER PIPING FOR PURPOSES OF ACCESS, INSPECTION, AND CLEANING.
6. INTERCEPTOR AND SAMPLE BOX RISERS SHALL BE SEALED WITH RANNEK TYPE SEALANT PRODUCT AND ALL JOINTS GROUTED TO RING AND COVER.
7. INTERCEPTORS AND COVERS MUST MEET VEHICLE LOADING REQUIREMENTS (H2O) PER APMO STANDARDS.
8. SAMPLE BOXES AND COVERS MUST MEET VEHICLE LOADING REQUIREMENTS (H2O).
9. MANHOLE COVERS SHALL BE GAS TIGHT IN CONSTRUCTION AND HAVE A MINIMUM SIZE OPENING OF 24".
10. THE SAMPLE BOX SHALL BE CONSTRUCTED OF CONCRETE WITH MINIMUM DIMENSIONS OF 32" DIAMETER AND INCLUDE A 6" FLOW THROUGH CHANNEL FOR TAKING SAMPLES.
11. 100% OF THE INTERIOR OF THE SAMPLE BOX SHALL BE COATED WITH ACID-RESISTANT MATERIAL APPROVED BY WWRD.
12. 100% OF THE EXTERIOR OF THE SAMPLE BOX SUSCEPTIBLE TO GROUND WATER INTRUSIONS SHALL BE COATED WITH WATERPROOF MATERIAL.
13. THE DISCHARGE REDUCER ON THE SAMPLE BOX SHALL BE ECCENTRIC SO AS NOT TO IMPEDE FLOW THROUGH THE CHANNEL.
14. ANY FUTURE CONNECTED TO AN INTERCEPTOR SHALL HAVE A NON-REMOVABLE, SECURED PERFORATED METAL FOOD SCREEN, NOT LESS THAN ¾" EYE HOLE SIZE.
15. PLUMBING SHALL MEET THE REQUIREMENTS OF THE UNIFORM PLUMBING CODE.
16. CONTRACTOR TO VERIFY EXISTING INVERTS AND INSTALL NEW GREASE INTERCEPTOR AND SAMPLE BOX TO MATCH EXISTING CONDITIONS AND IN ACCORDANCE WITH ALL MANUFACTURER'S RECOMMENDATIONS.

2	5-9-12	CLARIFICATION	DN
REVISION	DATE	DESCRIPTION	MADE BY APPROVED



EXPIRES 4/30/14

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MITSUBUHI & ASSOCIATES

GREASE INTERCEPTOR DETAILS

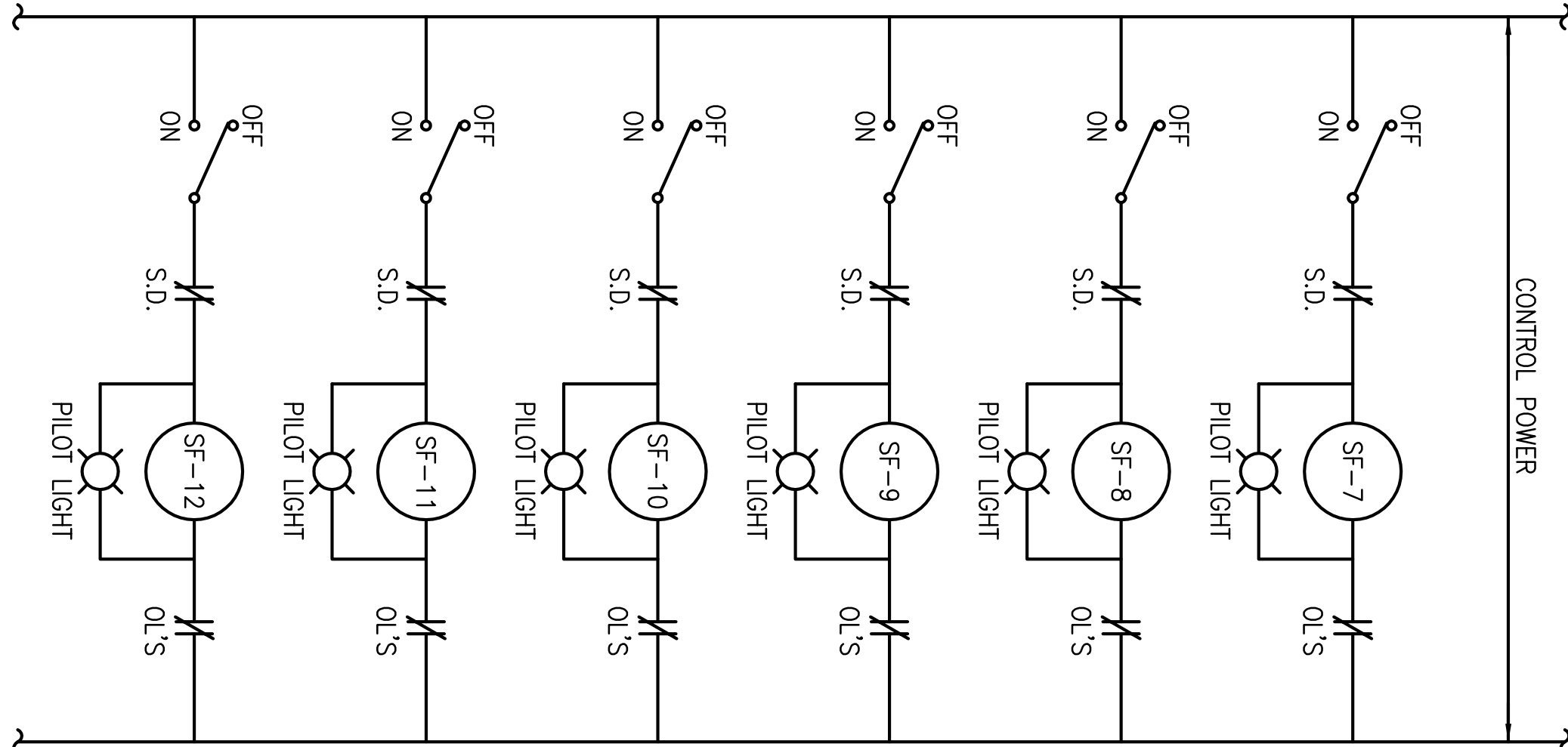
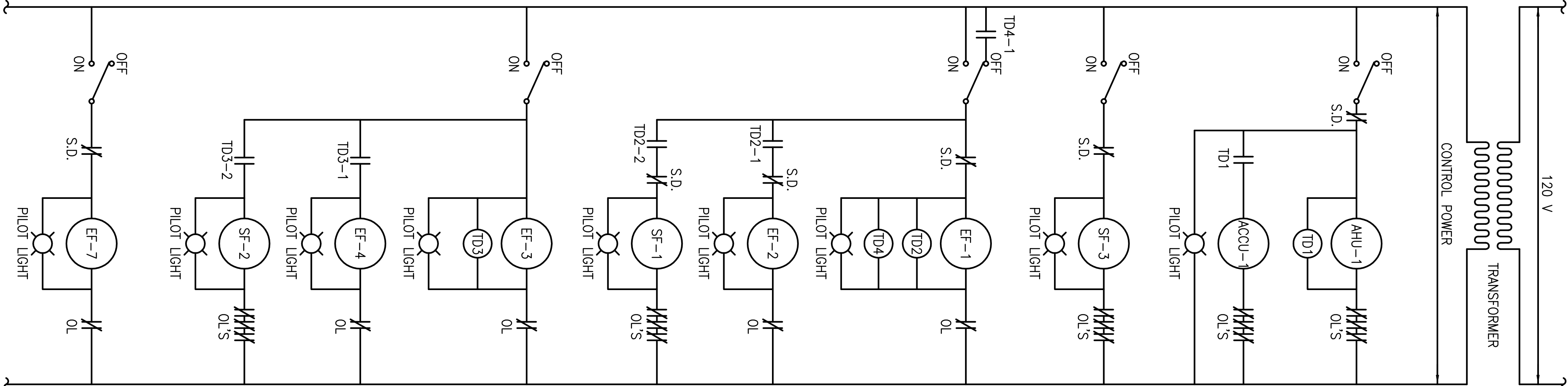
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SHEET NO.	

M-23

160 OF 190 SHTS

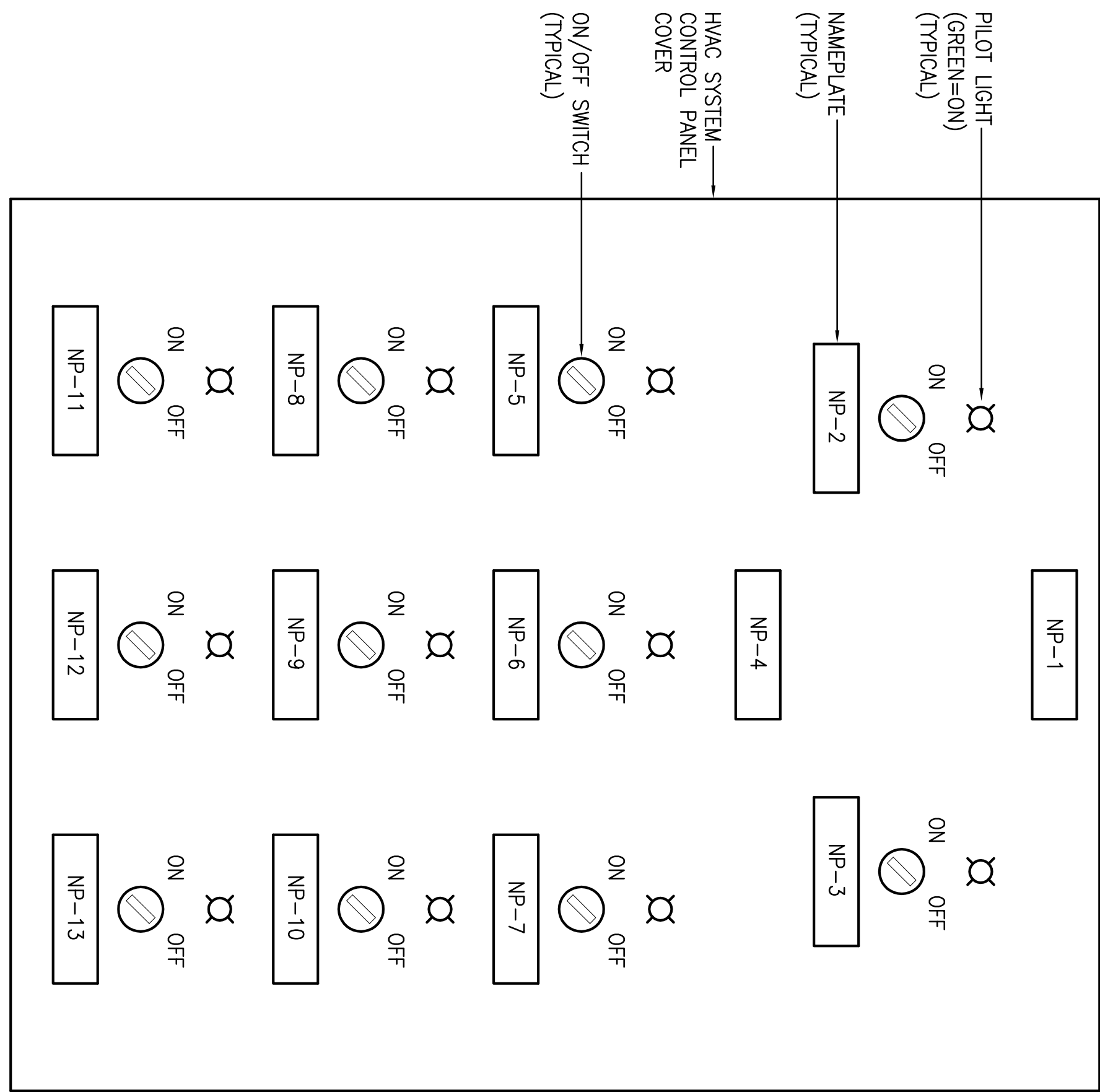


CONTROL DIAGRAM LEGEND:

ABBREVL.	DESCRIPTION
ACCU	AIR-COOLED CONDENSING UNIT
AHU	AIR HANDLING UNIT
EF	EXHAUST FAN
O.L.S	OVERLOADS
TD	TIME DELAY

NAMEPLATE SCHEDULE:

NP-#	DESCRIPTION
1	GYM HVAC SYSTEM CONTROL PANEL
2	AHU/ACCU-1 (MULTI-PURPOSE RM.)
3	SUPPLY FAN 3 (COMMUNITY REC. RM.)
4	VOG ROOMS
5	LOCKERS/SHOWERS
6	GYM RESTROOMS
7	MULTI-PURPOSE RESTROOMS
8	COURT 1 (NORTH-WEST BLEACHERS)
9	COURT 1 (SOUTH-WEST BLEACHERS)
10	COURT 1 (NORTH-EAST BLEACHERS)
11	COURT 1 (SOUTH-EAST BLEACHERS)
12	COURT 4 (WEST BLEACHERS)
13	COURT 4 (EAST BLEACHERS)



SEQUENCE OF OPERATION:

- AHU/ACCU-1:
 - WHEN OUTSIDE CONDITIONS CALL FOR VOG MITIGATION, AHU/ACCU-1 SHALL BE MANUALLY TURNED ON BY AN ON/OFF SWITCH.
 - AHU-1 SHALL ENERGIZE FIRST. AFTER AN ADJUSTABLE TIME DELAY, ACCU-1 SHALL ENERGIZE. INITIALLY SET TIME DELAY TO 10 SECONDS.
 - PILOT LIGHT SHALL INDICATE SYSTEM IS ENERGIZED.
 - WHEN THE OPERATION OF AHU/ACCU-1 IS NO LONGER REQUIRED, THE SYSTEM SHALL BE MANUALLY TURNED OFF BY TURNING THE MANUAL ON/OFF SWITCH TO OFF.
- SF-3:
 - WHEN OUTSIDE CONDITIONS CALL FOR VOG MITIGATION, SF-3 SHALL BE MANUALLY TURNED ON BY AN ON/OFF SWITCH.
 - PILOT LIGHT SHALL INDICATE SYSTEM IS ENERGIZED.
 - WHEN THE OPERATION OF SF-3 IS NO LONGER REQUIRED, THE SYSTEM SHALL BE MANUALLY TURNED OFF BY TURNING THE MANUAL ON/OFF SWITCH TO OFF.
- EF-1/EF-2/SF-1:
 - THESE UNITS SERVES THE TWO LOCKERS, SHOWERS AND CHANGING ROOMS. WHEN REQUIRED, THESE UNITS SHALL BE MANUALLY TURNED ON BY A SINGLE ON/OFF SWITCH.
 - EF-1 SHALL BE ENERGIZED FIRST. AFTER AN ADJUSTABLE TIME DELAY, EF-2 SHALL BE ENERGIZED. AFTER AN ADJUSTABLE TIME DELAY, SF-1 SHALL BE ENERGIZED. INITIALLY SET DELAYS TO 10 SECONDS.
 - WHEN THE OPERATION OF THESE FANS ARE NO LONGER REQUIRED, THE SYSTEM SHALL BE MANUALLY TURNED OFF BY TURNING THE MANUAL ON/OFF SWITCH TO OFF. IN THE OFF POSITION, A TIME DELAY CONTACTOR SHALL KEEP THE FANS ENERGIZED AND OPERATING FOR 30 MINUTES. AFTER 30 MINUTES THE TIME DELAY RELAY CONTACTOR WILL OPEN AND THE FANS WILL TURN OFF.
- EF-3/EF-4/SF-2:
 - THESE UNITS SERVES THE MEN'S AND WOMEN'S RESTROOMS. WHEN REQUIRED, THESE UNITS SHALL BE MANUALLY TURNED ON BY A SINGLE ON/OFF SWITCH.
 - EF-3 SHALL BE ENERGIZED FIRST. AFTER AN ADJUSTABLE TIME DELAY, EF-4 SHALL BE ENERGIZED. AFTER AN ADJUSTABLE TIME DELAY, SF-2 SHALL BE ENERGIZED. INITIALLY SET DELAYS TO 10 SECONDS.
 - WHEN THE OPERATION OF THESE FANS ARE NO LONGER, THE SYSTEM SHALL BE MANUALLY TURNED OFF BY TURNING THE MANUAL ON/OFF SWITCH TO OFF.
- EF-7:
 - WHEN REQUIRED, THE FAN SHALL BE MANUALLY TURNED ON BY AN ON/OFF SWITCH.
 - WHEN NO LONGER REQUIRED, THE FAN SHALL BE MANUALLY TURNED OFF BY TURNING THE MANUAL ON/OFF SWITCH TO OFF.
- SF-7/SF-8/SF-9/SF-10/SF-11/SF-12:
 - WHEN REQUIRED, THESE FANS SHALL BE MANUALLY TURNED ON BY AN ON/OFF SWITCH. SF-7 THRU 10 SERVES COURT 1. SF-11 & SF-12 SERVES COURT 4.
 - WHEN NO LONGER REQUIRED, THE FANS SHALL BE MANUALLY TURNED OFF BY TURNING THE MANUAL ON/OFF SWITCH TO OFF.

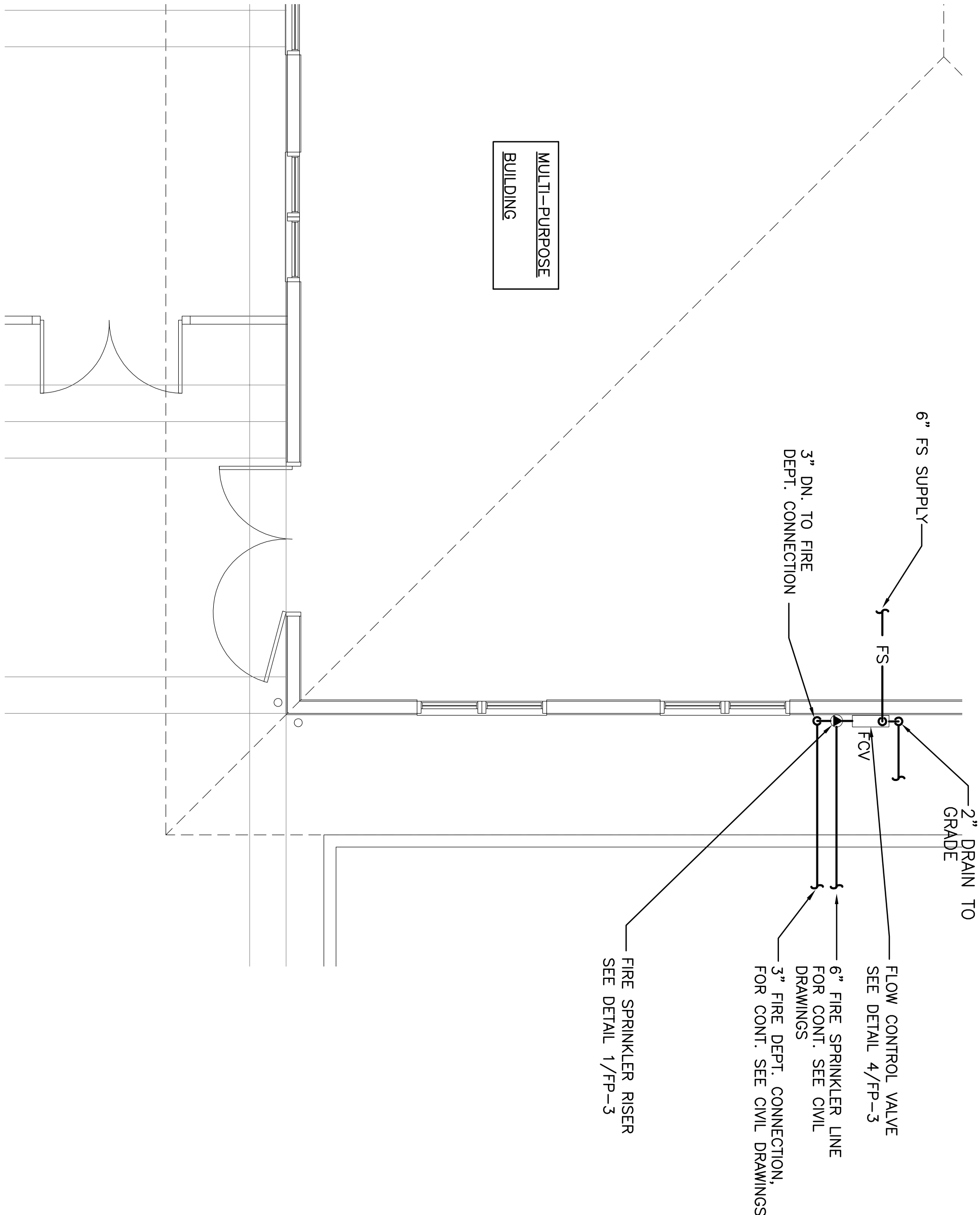
1 CONTROL LADDER DIAGRAM

M-24 NOT TO SCALE

2 CONTROL PANEL DETAIL

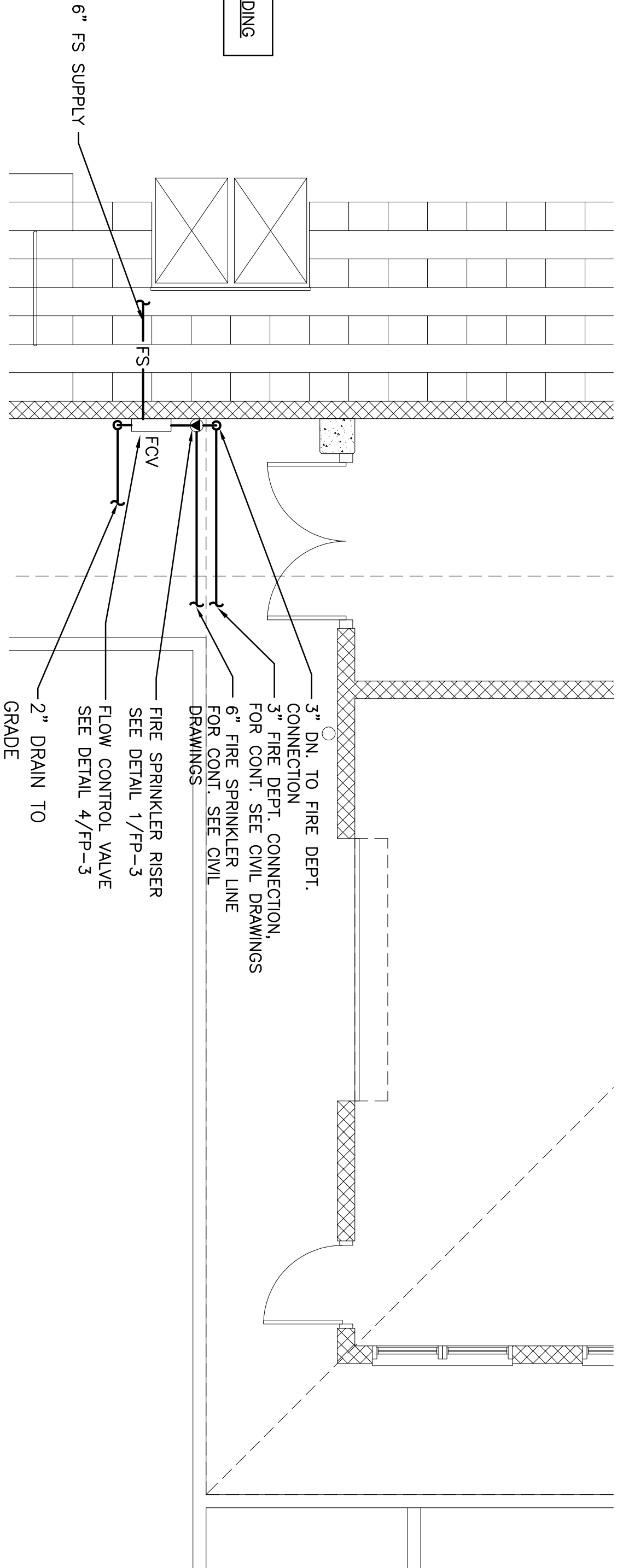
M-24 NOT TO SCALE

<div>EXPIRES 4/30/14</div> <div>This work was prepared by me or under my supervision and construction of this project will be under my observation.</div> <div><i>Daniel L. Maguire</i> DANIEL L. MAGUIRE LICENSED PROFESSIONAL ENGINEER 14505-44 HAWAII, U.S.A.</div>		<div>DESIGN BY: DME</div> <div>DRAWN BY: CAD</div> <div>CHECKED BY: DNI</div> <div>DATE: 2012 APR-5</div> <div>167 OF 160 SHEETS</div>	
<div>REVISION</div> <div>2</div> <div>5-9-12</div> <div>CLARIFICATION</div> <div>DATE</div>		<div>DEPARTMENT OF PUBLIC WORKS, BUILDING DIVISION</div> <div>COUNTY OF HAWAII</div> <div>NEW KAUʻU DISTRICT GYMNASIUM & SHELTER AT KAʻU AND PAHALA ELEMENTARY SCHOOL CAMPUS</div> <div>JOB NO. B-4108</div> <div>PAʻAULU AHUPUʻA, DISTRICT HAWAII</div> <div>96-2150 PINE STREET, PAHALA, HAWAII 96777</div> <div>THK (3) 9-6-05: 08 & 39</div>	
<div>GYM CONTROL DETAILS & SEQUENCE OF OPERATION</div>		<div>REVIEWED:</div>	



A FIRE PROTECTION PLAN

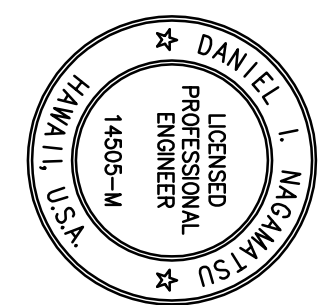
FP-2 SCALE: 1/4" = 1'-0"



B FIRE PROTECTION PLAN

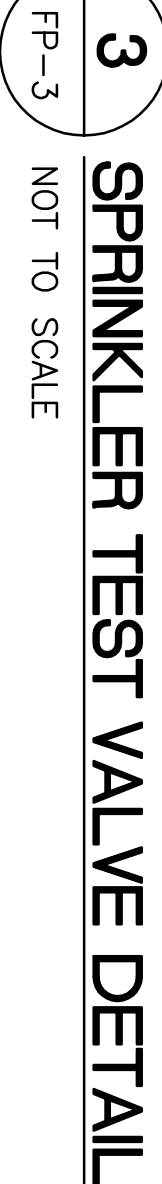
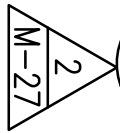
FP-2 SCALE: 1/4" = 1'-0"

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
2	5-9-12	CLARIFICATION	DN	



COUNTY OF HAWAII
DEPARTMENT OF PUBLIC WORKS, BUILDING DIVISION
NEW KA'U DISTRICT GYMNASIUM & SHELTER AT KA'U AND PAHALA ELEMENTARY SCHOOL CAMPUS
JOB NO. B-4108
PA'AU AHUPUANA, DISTRICT HAWAII
96-2150 PINE STREET, PAHALA, HAWAII 96777
TWC (3) 946-0510 & 39

EXPIRES 4/30/14	
This work was prepared by me or under my supervision and construction of this project will be under my observation.	
<i>Daniel L. Magana</i>	
MISUNIGA & ASSOCIATES	
FIRE PROTECTION PLAN	
REVIEWED:	DATE
DIVISION CHIEF BUILDING DIVISION DEPARTMENT OF PUBLIC WORKS	2012 APR-5
DESIGN BY: DNIIE DRAWN BY: CND CHECKED BY: DNI	SHEET NO. FP-2
164 OF 190 SHEETS	



EXPIRES 4/30/14

Paul J. Nagasawa
MITSUNAGA & ASSOCIATES

DATE
2012 APR-5

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HP-3
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